

INSIDE DOPE

by GEORGE F. TAUBENECK

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Stories of the Week

Jarring was the move of Boston's Braves to Milwaukee at the outset of the 1953 season. First major league franchise shift in 50 years.

Owner Lou Perini condensed the reasons for his move with a classic remark:

"I don't mind losing a few hundred thousand dollars. But when I lose more than a million, it becomes expensive."

Sam Gruber of the London Chop House in Detroit tells about a chap who reduced the mileage on his car's speedometer before selling it to a used car dealer. After they completed the deal, the dealer suggested to the seller:

"Next time you sell a car and monkey with the speedometer, don't forget to tear off your oil-change stickers that show twice as much mileage."

Pop and Big Brother pushed out a loaded boat for a night's fishing. From the summer cottage Mommie and Susie watched lonesomely as they waved goodbye.

Like many bright children, Susie had a watchful eye for details.

"Mommie," she worried, "do fish like beer?"

Teacher explained that if a boy or girl had to go to the washroom he or she should hold up two fingers.

"How's that gonna help?" blurted Terry.

Gags of the Week

Friend of ours in Indianapolis spotted a defective neon sign on the Essex House there. First two letters weren't lit up.

DEFINITION OF MONEY: Everybody wants more; but if you hadn't made so much, you wouldn't have so many obligations.

Hildreth Has an Exciting Job

Among other interesting developments during the REMA meeting at The Homestead, a fortnight ago, was a rump session of REMA past presidents.

"Duke" Hildreth of Westinghouse was elected temporary chairman of the group for a period of 16 years. If, at the end of that time, he can come up with one program with which the other past presidents will agree, they will elect him permanent chairman.

It has been suggested that this new organization be known as the BUM RAP group (Bureau of Unemployed Musicians and Rema Ax Presidents).

Philosophy of the Week

Power battens on its own success, and its appetite grows with every morsel it swallows; that is one of the surest lessons of history.—Lewis Mumford.

Suspicion is like a pair of dark glasses—it makes all the world look dark.—Highways of Happiness.

Men of action are, after all, only the unconscious instruments of the men of thought.—Heine.

Telephone Technique

We quote from Mark Beltaire's widely read newspaper column, *The Town Crier*:

"Judge W. McKay Skillman satisfied the pixie in himself and most of the rest of us when, on a routine business call, he made the type of response that we'd all love to. A pleasant young voice inquired of the judge: 'May I ask who's calling?' Skillman's reply was: 'Yes.' There (Concluded on Page 15, Column 1)

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No Question About It: Air Conditioning Has Captured Public Attention

ATTEMPTING to do its duty (as the acknowledged "conscience of the industry") AIR CONDITIONING & REFRIGERATION NEWS, in recent months, has thrown bucketsfull of cold water on the wild statements being bandied around in national magazines and trade papers about air conditioning. Wild guesses, that is, about its present and future.

In editorial after editorial we have pointed out:

- (1) That it isn't a quick-profit "billion dollar industry" yet;
- (2) That air conditioning is a business for experts and specialists;
- (3) That many newcomers to the business—from manufacturer to contractor to serviceman—will have a lot to learn before they can compete adequately with experienced air conditioning skillsters; and that:

(4) Despite all the ballyhoo, an air conditioning dealership isn't a magic carpet to a maharajah's bejeweled riches (complete with harem) or long vacations in Florida. You still have to work, and work hard to make Big Money in this tough and rough business.

Having pointed out the danger signals, the pitfalls and pratfalls . . . the Truth of the Situation . . . in editorial after editorial . . . now we feel like relaxing a bit. Truly, air conditioning can and will become a "smash hit" we believe.

Yes, we've been reading all the publicity in local newspapers, and national magazines, too. And we've been listening to speeches at industry meetings, and to pot-of-gold-at-the-end-of-a-rainbow

(Concluded on Page 22)

Manufacturers See Big Air Conditioning Gains

Otter of Philco Sees Public Ready to Buy

CHICAGO — Two developments should broaden the market for room air conditioners tremendously, John M. Otter, vice president and general manager of the Refrigeration Div. of Philco Corp., told the 19th annual sales conference of Edison Electric Institute.

1. The trend to use of room air conditioners in large office buildings and other multiple-room structures.

2. New design features which permit use of the units the year-round in the warmer climates and during three seasons in most parts of the country.

Otter pointed out that not only is there an acceptance and demand for air conditioning today but plenty of money around to buy it.

"Liquid assets of the people of this country totaled about \$195,000,000,000 at the end of 1953," he said. "They had cash—\$21,300,000,000; demand deposits of \$33,500,000,000; savings accounts of \$60,000,000,000; government securities of \$61,000,000,000."

"Do you know how much that is?"

(Concluded on Back Page, Column 1)

Wampler of Carrier Says Orders Run 60% Over '52

PHILADELPHIA — Orders booked by Carrier Corp. thus far in its fiscal year that began Nov. 1 are running nearly 60% ahead of bookings for the corresponding period a year ago, Cloud Wampler, president, told the Philadelphia Securities Association.

"Without doubt, 1953 will be by all odds the biggest air conditioning year to date for our company and the industry," Wampler said.

He predicted that for the fiscal year ending next Oct. 31, the company's sales would be 50% above the record \$107,700,702 total for last fiscal year.

Lauer of York Reports 40% Increase for 6 Mos.

YORK, Pa.—In two recent public talks, Stewart E. Lauer, president of York Corp., stated that York's business for the first six months will probably be 40% ahead of last year, and declared that "we are entering an area of expansion of the use of refrigeration and air conditioning, particularly the latter, which is almost beyond the imagination of the best of us."

He told the Financial Analysts of Philadelphia that the company's backlog has reached a record \$47 million, about 25% of which is defense work.

Lauer was quoted as saying that York will produce 30,000 room air conditioners of the "reverse cycle" type, which provides both heating and cooling by reversing the refrigerant cycle.

Declaring that the year-round residential phase of the air conditioning industry was still in its infancy, Lauer reported that York has made a thorough study of the substantial

(Concluded on Page 41, Column 5)

G-E Air Conditioning Div. Has Record 1st Quarter

BLOOMFIELD, N. J. — General Electric's Air Conditioning Div. recently reported its best first quarter on record.

F. J. Van Poppelen, general manager of the G-E division, said that orders received to date are running far ahead of the corresponding period of any previous year.

The biggest gain, he said, has been in packaged units for commercial and industrial air conditioning with more than five times as many orders received this year than during the first quarter of 1952.

The company's new "pre-season" (Concluded on Page 4, Column 5)

UL Jam May Keep Some Conditioners Off the Market

CHICAGO — Some manufacturers of air conditioners may not be able to sell their products in certain localities this year.

Others may find the season half gone before they're allowed to do so.

The reason is that all manufacturers probably won't have their products approved by Underwriters Laboratories in time.

Lack of UL approval won't necessarily keep a unit off the market, but in certain cities such as Detroit, Los Angeles, and many others, local authorities won't permit the installation of air conditioning or other equipment which hasn't been approved by UL.

The air conditioning boom which brought many new manufacturers into the field has turned Underwriters Laboratories into a bottleneck. All (Concluded on Page 41, Column 2)

Sayre Quits Bendix Post But Will Be Consultant

NEW YORK CITY — Judson S. Sayre, vice president of Avco Mfg. Corp. and general manager of the Bendix Home Appliances Div., has resigned, effective immediately, and will become a consultant to the corporation, it is announced by Victor Emanuel, Avco president.

Hector J. Dowd, Avco vice president and former chairman of Bendix, will succeed Sayre. When Avco acquired Bendix in 1950, Sayre continued to head the operation at the request of the management, Emanuel said, although he expressed a wish at that time to be retained only as a consultant.

Picture Frame Styling Marks Harderfreez Line of Chest, Upright Freezers

NILES, Mich. — Featuring new styling, color, and fashionable design, the 1953 "Golden Leisure" line of upright and chest-type Harderfreez home freezers was announced recently by Tyler Fixture Corp. here.

Four upright models and two chests are included in the line. The uprights have capacities of 15, 20, 25, and 35 cu. ft., while the chest models have 15 and 20-cu. ft. capacities.

The new color scheme of the Golden Leisure line, designed by Sheldon Rutter, is set off in blue and gold. It is dominated by a gold picture frame styling.

(Concluded on Page 4, Column 4)

Conley Named Sales V.P. For Southern Appliances

CHARLOTTE, N. C.—Appointment of W. C. Conley as executive vice president in charge of sales of Southern Appliances, Inc., independent distributor of appliances and electronics in the Carolinas, has been announced by Calvin D. Mitchell, president.

Conley, who is widely known in the appliance and electronics fields, having spent 20 years with manufacturing and distributing organizations, comes to

(Concluded on Back Page, Column 5)

Tabulation of '53 Conditioner Mfr. Shows Big Jump

Room Unit Producers Double Residential Systems Way Up Some Report 'Not Ready'

DETROIT — Listed in this issue (with key descriptions of all models currently being produced) are manufacturers of self-contained air conditioners of the following types:

Room Air Conditioners (pages 28, 29, 30, and 31).

Complete Home Comfort Cooling Systems or "Residential" Systems as they are sometimes referred to (pages 33, 34, and 35).

Commercial or "Store" Type Package Air Conditioners (pages 38, 39, and 40).

Number of manufacturers of self-contained air conditioners represents a spectacular increase in producers

This Issue Is All About — Air Conditioning

Readers will note that the editorial matter in this issue is heavily concentrated on the subject of air conditioning.

While news and technical developments of the air conditioning field are covered regularly in the weekly issues of the NEWS, editors have made a practice, in the past several years, of taking one issue each Spring and making it a "kickoff" number for the air conditioning selling season.

Those who have any kind of an interest in air conditioning will, we believe, find valuable and helpful material in this issue.

over the past 12 months. The total of manufacturers of room air conditioners, for example, is more than double the number who were listed in the 1952 Refrigeration & Air Conditioning Directory.

The 41 producers of complete home or "residential" cooling systems represent a tremendous increase over the handful of companies who were offering such equipment a year ago. A few additions are noted in the list of commercial or "store" type package air conditioners.

(Concluded on Page 41, Column 4)

3 Crosley Freezer Prices Increased \$50 In Chicago

CHICAGO—Harry Alter Co., local appliance distributor, has advised dealers that the suggested list prices of three Crosley chest-type home freezers have been increased \$50 in the Chicago area.

Since dealer cost of the three models was not raised, the price adjustment allows the retailer a larger margin for merchandising the freezers, it was pointed out.

The adjustment brings the price of model SE 15 to \$489.95, that of model CEF 15 to \$529.95, and that of model CEF 20 to \$699.95.

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Alvin Shumann Elected Pres. of Lehigh Firms

EASTON, Pa.—The board of directors of Lehigh Foundries, Inc., and its affiliate Lehigh Mfg. Co., announced recently the election of Alvin A. Shumann as president of both companies. Frank E. Shumann, who has served as president since 1927, will assume the newly created office of chairman of the board.



A. A. Shumann

Alvin A. Shumann has been actively associated with Lehigh Foundries, Inc., since 1928 and has served as treasurer since 1934. He is a member of the social legislation committee of the United States Chamber of Commerce and the government contracts committee of the NAM.

Announcement was also made by the board of directors of the election of Fred C. Krauss as treasurer of Lehigh Foundries, Inc. and its subsidiaries.

Charlotte Assn. Chartered

CHARLOTTE, N. C.—Air Heating & Air Conditioning Association of Charlotte, Inc., a non-stock corporation, has been granted a charter by the Secretary of State. Incorporators: J. H. Daughtry, E. P. Nisbet, and T. A. Kirkwood, all of Charlotte, and others.

G-E Enlists Utilities Aid In Nationwide Survey To Determine Home Power Use

CHICAGO—General Electric Co. has proposed a nationwide survey to determine the fluctuation in home electric power consumption over a 24-hour period, with the cost to be shared by G-E and electric utilities.

Clarence H. Linder, GE vice president and general manager of the Major Appliance Div. at Louisville, Ky., speaking at the 19th annual sales conference of the Edison Electric Institute in the Edgewater Beach hotel, said such data, on a national basis, "is necessary for an effective load-planning effort" by the utilities.

"Much work has been done on an individual company basis and by some of the industry associations," he said.

"General Electric Co., because of the importance of such a survey to the entire electrical industry, is willing to underwrite a substantial part of the total expenditure," he continued.

"Indications are that the total expense will be so great and the benefits so widespread that we believe many of you in the utility industry will recognize the need and will want to join with us in underwriting the survey project."

He gave no estimate of the possible cost, but said the company has engaged the services of an engineering firm to make a study to determine just what information, techniques, equipment, time, and expenditure will be required for the survey.

"The appliance industry will be a

rapidly growing, important factor in our economy during the immediate years ahead," the G-E executive said, but cautioned that "it is imperative that the utility and appliance industries join hands to fully realize the projected program."

He called upon the utilities to "formulate bold and aggressive programs for an intensified promotion of the all-electric home," adding that "I have the most uncomfortable feeling that the long-range plans of many of the individual companies comprising the utility industry may not give full cognizance to the anticipated impact of the all-electric home."

He said such an appeal is justified because revenues obtained by utilities from electric power used to operate major appliances alone, in 1952, exceeded the wholesale value of all major appliances sold in that same year.

"If we consider more broadly the electric home with its electric heating and cooling appliances, in addition to major appliances, the consumer load very obviously becomes an increasingly important segment of your business," Linder said.

He added that utility revenues from such services in 1960 will be more than double those of today.

Linder declared that General Electric has expressed its confidence in the future by spending "in excess of \$200 million" for the construction of Appliance Park at Louisville.

'Talk' of Cooling Sells Unbuilt Homes

NEW YORK CITY—Concrete evidence that air conditioning sells houses—even before a sample house is completed—is offered by Ernest J. Calcagni and Edwin Bayer, Westchester County, N. Y. builders.

Word got around that the \$14,250-\$16,500 houses being built in their Saxon Woods Park development were to have air conditioning, and more than half of the homes were sold before any announcement was made or any newspaper advertisements were run.

Williams Div. Appoints Motz as Products Manager

BLOOMINGTON, Ill.—Donald F. Motz has been appointed product manager of the Williams Div., Eureka Williams Corp., it has been announced by Andrew F. Ward, general sales manager of the division.

Motz will do liaison work between the Williams Div. sales and engineering departments and will head product application engineering for the Williams Air-O-Matic residential air conditioning and Oil-O-Matic and Gas-O-Matic forced air heating units. He will also direct the technical and application engineering education program for Williams employees and dealers.

Motz was recently chief of the Tank Automotive Branch, Contract Administration Div., Chicago Ordnance District.

Nashville Distributors Anticipate 'Hot' Sales Climate This Summer

NASHVILLE — Leading distributors here say that air conditioning units are expected to be just about the "hottest" selling appliance item in town this summer.

"If the summer is hot and the supply holds out, dealers should sell at least 5,000 units this year," said William D. Hall, sales promotion manager for Nashville Electric Service.

He added that "The boom caught on in fine style last summer, which was a scorcher. About 3,100 room units were sold, compared with less than 500 during 1951."

M. T. Gossett, president of M. T. Gossett Co., Carrier distributor, commented: "Our sales are running 30% ahead of last year. There will be a shortage this year, as there was in 1952, particularly in room-size units."

Gossett went on to say that "Great interest is in the residential construction field. Scores of new houses are being planned to include year-round air conditioning."

He added that "There also is considerable activity in industrial and commercial units. Air conditioning projects include the National Life Insurance Co. building, the Stahlman building, several theaters, tourist courts, funeral homes, the state office building, restaurants, hotels, and many smaller offices."

C. R. Greenleaf, general manager of Braid Electric Co., Fedders distributor, declared: "We expect an excellent year. We will sell all the units we can get unless it's a cool summer. Whether we can get all we can sell is another question. It'll be the best year ever for recognized brands."

Appliance Distributor Has Branch In Jackson, Miss.

JACKSON, Miss.—A branch of George H. Lehleithner & Co. of New Orleans was opened here recently to speed up deliveries of Bendix appliances, Emerson television, Mitchell room air conditioners, and Hobart Kitchen-Aid dishwashers to Mississippi dealers, the company announced.

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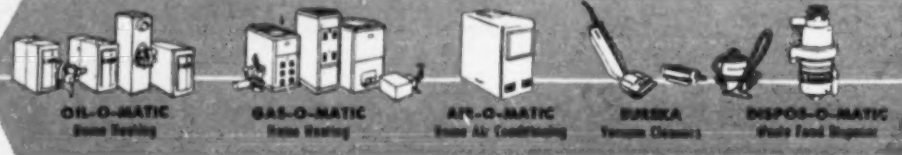
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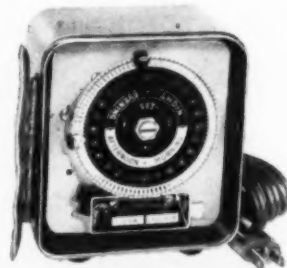
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No. 919W—15 amp. single pole with calendar wheel to automatically skip certain days weekly. For 1/3 or 1/2 H.P. . . . \$16.95

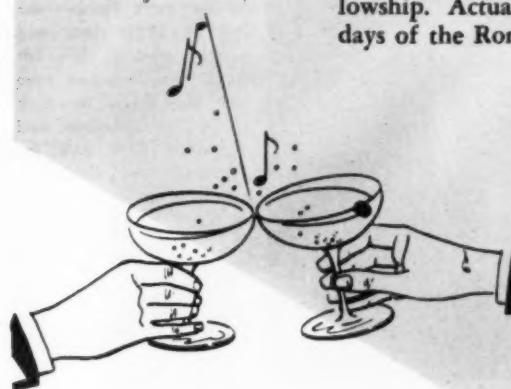
No. 919G—3/4 H.P. daily operation. 3-wire, 14 cond. polarized-grounded plug-in. Stand or hang . . . \$19.95

No. 919GW—3/4 H.P. with calendar wheel 3-wire, 14 cond. polarized-grounded. Automatically skip any days weekly. Plug-in. Stand or hang . . . \$22.95

For 1 H.P. and Up, Installed Types, Ask for Free Bulletin No. 151

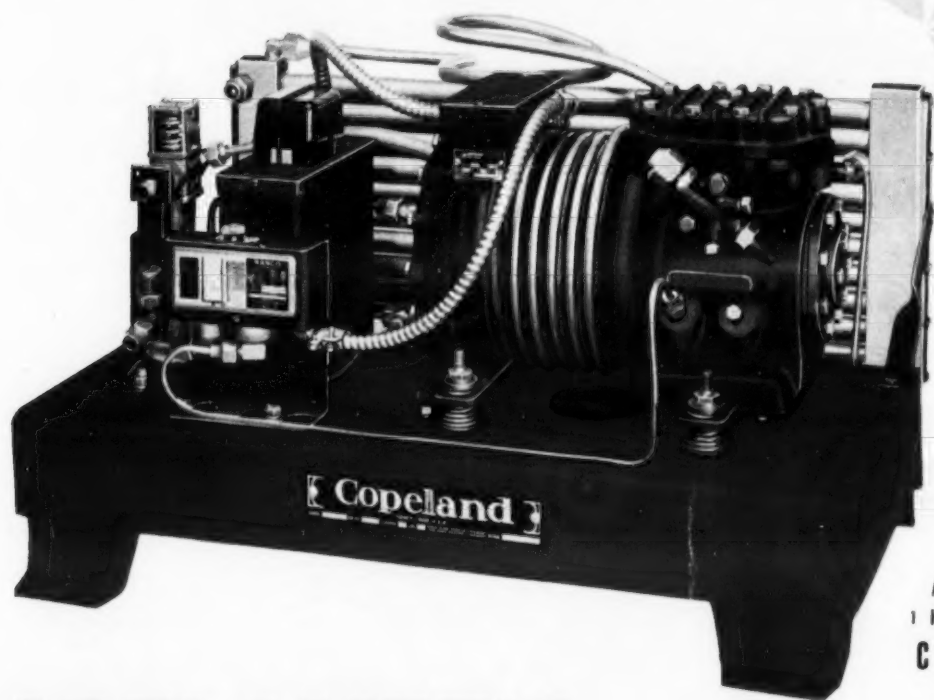
TORK CLOCK CO., Mt. Vernon, N.Y.

What's Behind a Tradition?



When people drink a toast they do so in a spirit of good fellowship. Actually, the origin of the tradition goes back to the days of the Roman gladiators. When these men prepared for a duel with swords, it was customary to give them each a cup of wine before they began. The wine was provided by one of the seconds. There were gamblers in those days, too, who would attempt to "fix the fight" by poisoning one of the cups. To prevent this, both cups were brought together and the contents poured back and forth until each cup held the same mixture. In this way, neither gladiator could be poisoned without the other also being poisoned. This tradition has evolved into the custom of clinking glasses together under happier circumstances and with better intentions.

a toast to the zooming air conditioning industry



MODEL Z-100W
1 H. P. WATER-COOLED
COPELAMETIC
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is an integral part of it

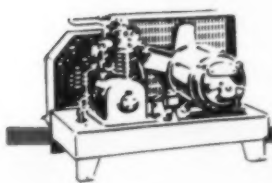
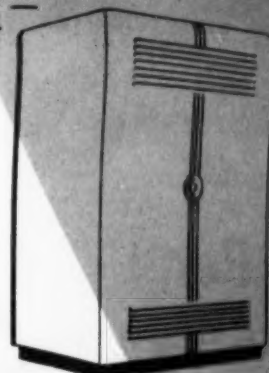
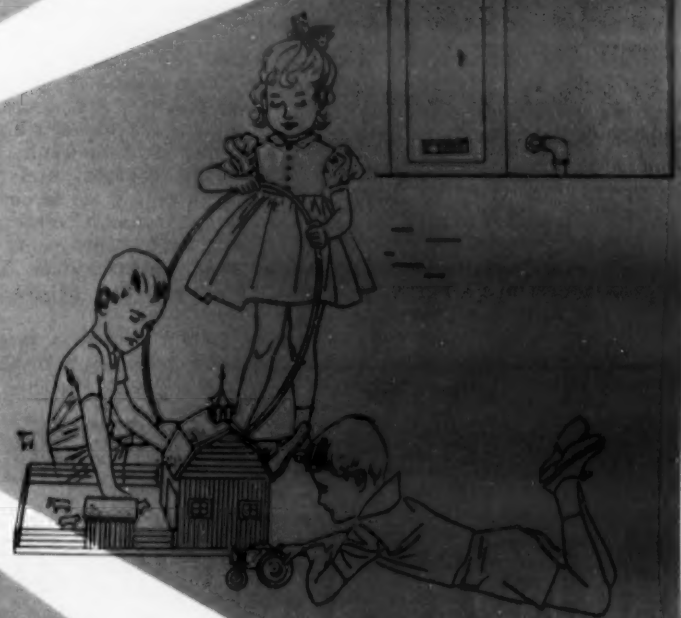
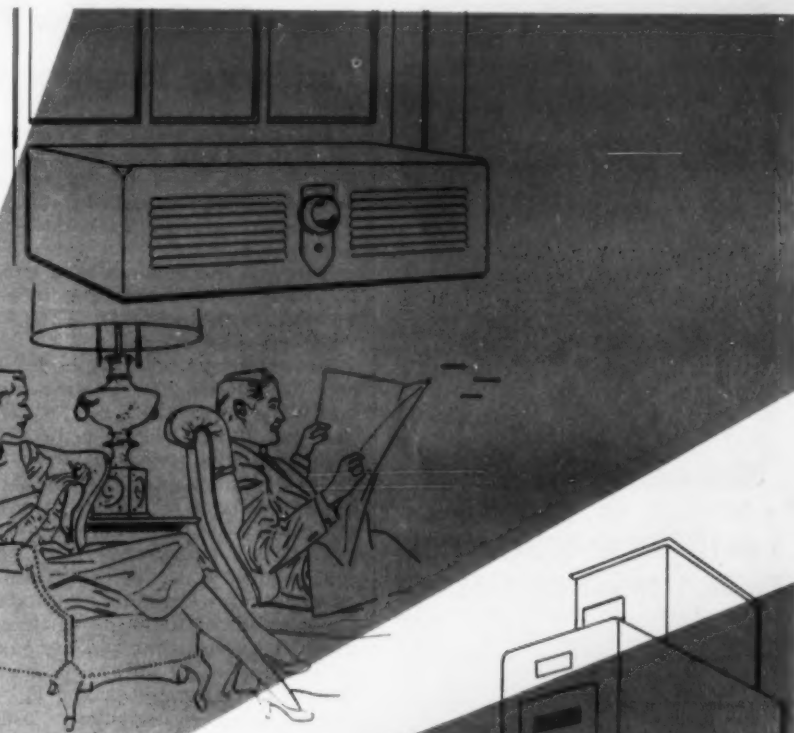
To your right, to your left . . . on America's "Main Streets," on the side streets, you see concrete evidence of the expanding markets for air conditioning. It is a stable market born of the people's demands for greater comfort. A vast potential exists for the manufacturers and dealers who recognize the greater salability of proved equipment . . . dependable equipment that gives 'round the clock performance quietly, efficiently and economically.

Hundreds of manufacturers use the Copeland-built Copelametic because of its established superiority in many ways. Being a hermetic there are no problems with belts, seals or manual oiling. This cuts servicing up to 90%. But the outstanding advantage of Copelametic is its accessibility. It was the first hermetic that could be

adjusted right on the spot. It is a compliment that this original Copeland development is setting the pace which others are following.

Copeland builds refrigeration units for every type package or central air conditioning system. In addition to Copelametic, the Accessible hermetic, there are air- and water-cooled, belt-driven refrigeration units, either remote or self-contained. Catalog on request.

Air-cooled, remote Copelametic units are built from 1/4 H.P. through 3 H.P. There are water-cooled, remote units from 1/3 H.P. to 7 1/2 H.P., inclusive. Air and water cooling combined is offered in several capacities. Self-contained Copelametic units are available for all applications. Write for Condensed Catalog C-52A.



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—with refrigerated cooled water station Model 40-FC, 15 cu. ft. freezer and 25 cu. ft. of normal temperature storage space, convenient water station, 3 Big Features in the space of one. Does the work of 3 cases. 430 stainless quilted steel with radius corners and vapor-proof insulation. 28" deep, 56" wide, 75" high. Other sizes with 2 doors or self-cont. Kelvinator Hermetic unit.

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Phone Book's Yellow Pages List Probable Ice Maker Customers; Telephone Canvass Digs Out Good Leads

DETROIT—How Roy Cameron of the Elliott Lewis Co. of Philadelphia sells York ice makers by telephone canvassing was described to Michigan dealers at a recent York sales meeting here.

Through the medium of a wire recorded interview, Cameron told how he locates prospects and what he does when he calls on them.

Cameron says he builds up his prospect list by telephone canvassing. He takes the local telephone book and cuts out all the yellow page listings that he thinks might in any way be ice users. He pastes these listings on separate sheets of paper, so that he can easily pick out ones he wants for a particular canvass.

The purpose of the telephone canvass, narrates Cameron, is to get an appointment. So the first thing to do is to be sure that you are talking with some one in authority. You tell this official that you want his help in making an ice use survey. You ask how much ice he uses in a day, whether it is crushed or cubed ice, and how much it costs him per 100 lbs.

This information, says Cameron, tells you whether the prospect uses enough ice to need an automatic ice maker. If he doesn't, you thank him for his courtesy and hang up. If he does and his ice is costing him more than it would from your icemaker, you have a prospect. You make an appointment to see him to explain how you can help him cut his ice costs.

When Cameron has enough prospects to keep him busy for several

days, he goes out and makes his calls. When the prospects begin to peter out, he selects some other sheets on his prospecting list, sits down at the telephone, and proceeds with another survey.

On his calls, Cameron says that he uses a presentation book, carefully made up to tell his complete ice maker story. He also carries some little gimmicks to arouse the prospect's interest and to stress pointers in his story. For instance, he uses coins to illustrate the savings made with an ice maker.

On every first call, Cameron says, he makes a written proposal to the prospect.

This, he says, convinces the man that you are offering him a good business proposition.

Production Executives of Crosley Get New Duties

CINCINNATI—A realignment of production executive responsibilities in Crosley Div., Avco Mfg. Corp., has been announced by John W. Craig, Avco vice president and Crosley general manager.

John Mihalic, Jr., formerly chief industrial engineer of the division's Nashville plant, will assume the duties of works manager of the Richmond, Ind., plant.

Robert W. Duncan, formerly Richmond works manager, becomes assistant to the general works manager in Crosley's headquarters in Cincinnati.



PICTURE FRAME styling and blue and gold color scheme mark Harderfreez line of 1953 chest and upright models. The 15-cu. ft. freezer shown here also has space for bulk storage of ice cream and a double juice rack for frozen fruit juices.

Harderfreez Line--

(Concluded from Page 1, Column 4)
ture frame effect on the front of both the upright and chest models. Blue and gold also highlight the accessories and interior of the freezers.

Special features of the upright models include:

1. A "chalk-up chart" on the inside of the freezer door. The chart is sectioned according to shelf location for orderly recording of contents. Entries can be made with an ordinary lead pencil. The writing wipes clean with a damp cloth.
2. A "Pie-Tainer" pie rack for storing pies baked in quantity. Portable, it can be taken out when not in use.
3. "Jiffi-Juice" racks recessed into the door permit placing of cans side by side in neat rows.
4. A "packaging pantry" storage bin below the freezer door offers space for food cartons and wrapping materials.

Other features include a chrome-plated, heavy duty "Lazi-Latch" door handle; guard rail to keep small food items in; "Touch-Dial" temperature control system; warning light; static condenser for fanless operation; and waist level accessibility of frozen foods.

Special features on the chest models are:

1. "Snow-Flake Storehouse," a special compartment with snow-flake designs etched into plexiglass twin doors. It provides storage for bulk ice cream and ice cubes made in quantity.
2. Double juice racks placed in the ice cream compartment where cans may be set in rows.
3. Center plate coil, an exclusive feature, that draws frost away from the walls, protects insulation, and increases efficiency, according to the company.

Other features are a light built into the self-balancing lid that automatically switches on when the lid is raised, removable dividers, warning light, "Handi-Lift" storage baskets, Touch-Dial temperature control system, Lazi-Latch door opening mechanism, and a recessed, ventilated base.

Manufacturing features on all models include welded steel construction, super-density glass fiber insulation, hermetically sealed compressor, and a finish of white baked-on enamel.

G-E A.C. Sets Record--

(Concluded from Page 1, Column 3)
sales plan which encourages businessmen to buy early has been a big factor in this good showing, according to Van Poppelen. Last year's heat wave has also been a big help in selling before the hot weather sets in, he said.

"It convinced those that remained to be convinced that air conditioning was necessary to avoid summer sales slumps, and no one wants to be caught short again," Van Poppelen declared.

The picture was equally bright in the comparatively new and rapidly expanding home cooling field, he said.

The company, he said, is currently selling home cooling equipment at several times its planned rate and has had to revise its original production schedules upward in the light of increasing demand.

The G-E official said he thought the situation was typical of the industry and that the greatest problem facing manufacturers now was keeping up with demand.

He estimated that about 50,000 homes would be completely air conditioned this year.

Refrigeration Tips

EXTRA

EXTRA

HELPFUL INFORMATION FOR REFRIGERATION MEN

INSIDE STORY

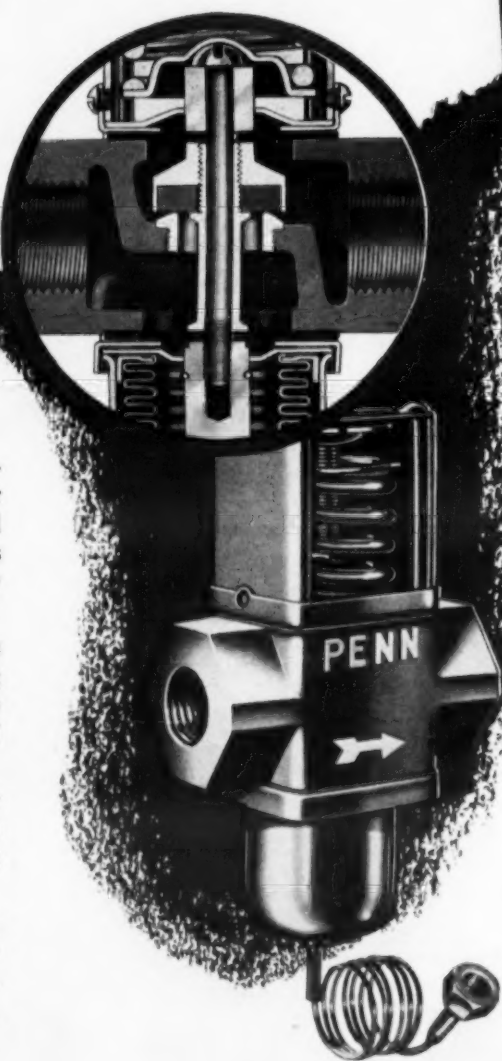
Explains Why Penn Water Valves Stay On the Job Longer

Rust, corrosion and sedimentation, the deadly enemies of ordinary water valves, are *never given a chance* to perform their destructive work and imperil the operation of commercial refrigeration or air conditioning when PENN Water Valves are used. Look at the inside of this water valve (cut-away view) and you'll see why this is true!

See how the two nylon-reinforced rubber diaphragms *definitely keep water away* from the bellows, range spring and sliding parts. Water never has a chance to attack these "working parts" and cause destruction. That's why the PENN Series 246 *stays on the job much longer*.

In addition, PENN's advanced design eliminates water hammer and sticking of seats. And the valve is very sensitive to changes in refrigerant head pressures to assure highest operating efficiency.

Built in sizes from 3/8" to 2 1/2" and in flanged or threaded styles, Series 246 Water Valves are *your best buy*. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Indiana**. Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto 13, Ontario.



PENN

AUTOMATIC CONTROLS

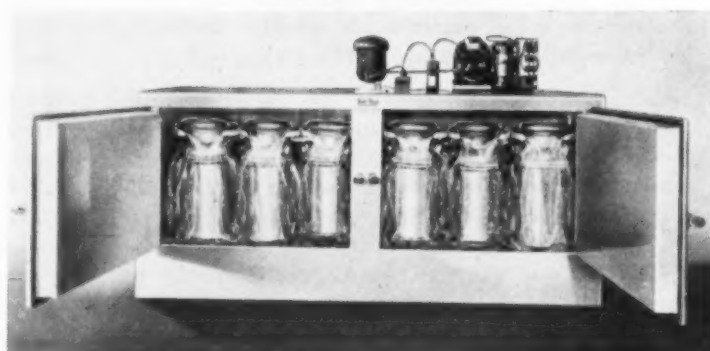
FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

SUB-ZERO Cascade MILK COOLERS

COOL FAST... SELL FAST!

FROM 95°
to
40°
in
ONE HOUR

6-CAN DELUXE

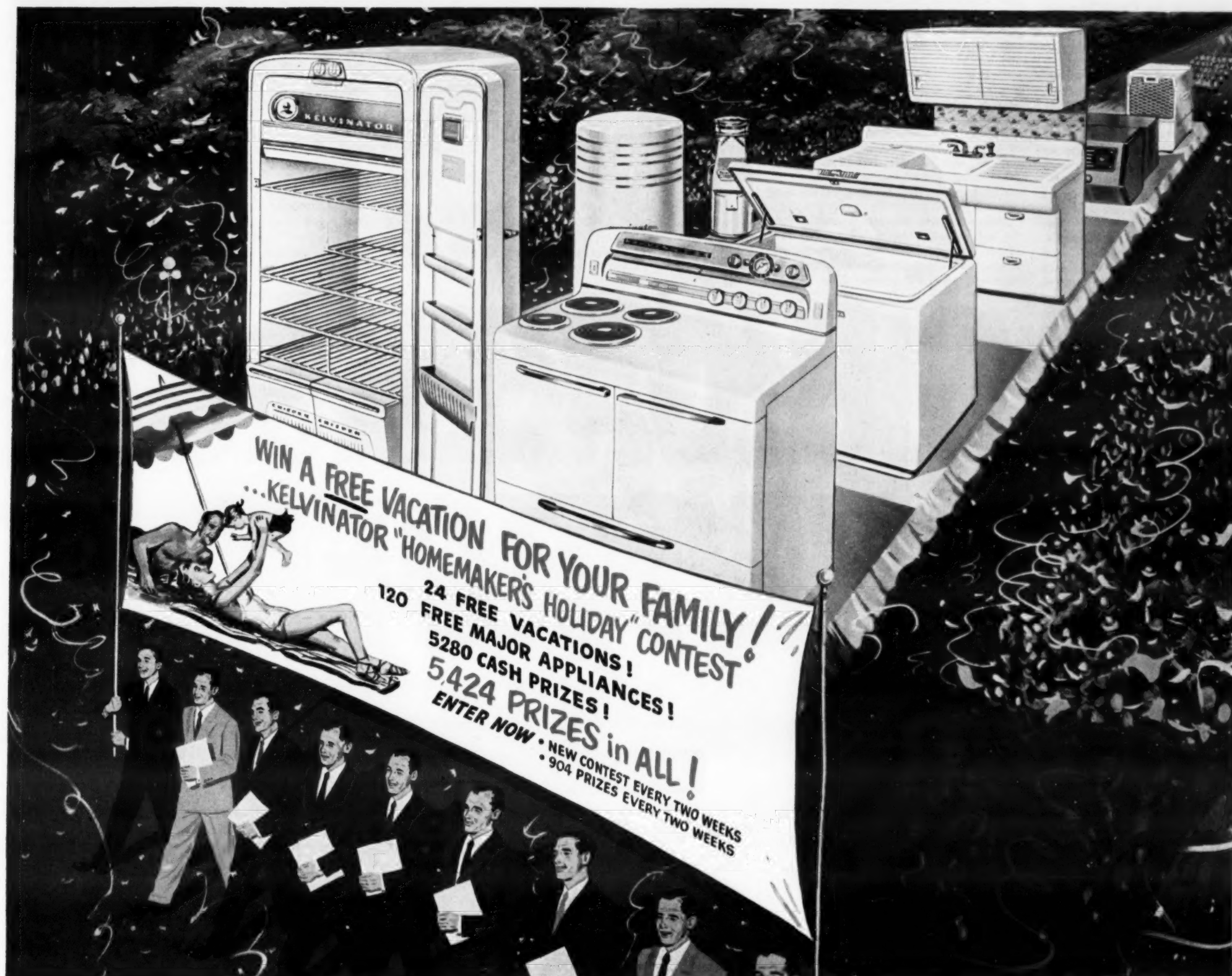


Sub-Zero—the fast cooling, fast selling, complete line of milk coolers features front opening doors, low lifts, non-rust aluminum exterior, sealed refrigeration units, economical operation. Both Cascade (Deluxe) and Spray Types in 4, 6, 8, and 12 can capacities. Write today for information.

SUB-ZERO FREEZER CO., INC.

MADISON, WISCONSIN

● MILK COOLER ● FREEZERS ● AIR CONDITIONING



Kelvinator Dealers Lead the Parade to Better Business!

BEGINNING THIS MONTH, Kelvinator dealers will have a new and even greater opportunity to lead the parade to better business . . . under a new banner—Kelvinator's Homemaker's Holiday Campaign.

From April 6 until July 3, 1953, Kelvinator is conducting the biggest appliance selling program in its history. It is a *full* and *complete* campaign . . . one that is designed and planned to *really* work for dealers . . . one that has every element for success!

In addition to the strongest line of products Kelvinator has ever had and the biggest advertising campaign in history during this period, dealers will have a huge national consumer contest—Kelvinator's "Homemaker's Holiday" Contest. In *this* contest, everybody stands to win . . . your customers, your salespeople and you.

It's a bigtime contest with 5424 consumer prizes, including twenty-four \$1000 vacation awards, Kelvinator appliances and other cash prizes. It's a terrific traffic and volume builder for dealers. And, to capitalize on the interest generated by this campaign, Kelvinator is offering dealers *complete* promotional materials to focus constant attention on their stores.

This all adds up to the biggest volume building opportunity of 1953 . . . and it is *without contest participation cost to the dealer*. That's typical of Kelvinator's retail-minded selling support which is one factor in making a Kelvinator Franchise so valued in the appliance field. Why don't you investigate further? For more complete information wire or phone Kelvinator.

There's still time to lead the parade!

JOIN THE **Kelvinator** PARADE TO BETTER BUSINESS!

Division of Nash-Kelvinator Corporation, Detroit 32, Michigan



REFRIGERATORS • RANGES • FREEZERS • HOME LAUNDRY EQUIPMENT • WATER HEATERS • DEHUMIDIFIERS • KITCHEN CABINETS • SINKS • "ELECTRO-DRAIN" GARBAGE DISPOSERS • ROOM AIR CONDITIONERS



ROOM COOLER NEWS

How Conditioner Altered Living Habits In One Home

MIAMI, Fla.—How a single room air conditioner has changed living habits in his home were described recently by Dr. Walter O. Walker, director of chemical research in industrial refrigeration at the University of Miami.

Dr. Walker had the air conditioner installed in a small den with two high windows that had been unbearable in hot weather and almost completely unusable. Now the windows are kept closed and the air conditioner operates day and night—at an electrical cost of about 25 cents per day.

A studio couch turns the den into a sleeping room for one member of the family who is sensitive to pollen. It serves as an evening study for Dr. Walker, who says he can concentrate better there than he can on the porch where outside sounds are disturbing and breezes blow his papers.

On weekends it has become a cool place to play cards, chat, or catch a nap. Mrs. Walker now uses it to do her ironing and sewing. On warm, still evenings when the rest of the house is hot it offers a refuge from mosquitoes who make the out-of-doors uncomfortable.

The clothes closet in the air conditioned room is one place where clothes never dampen out of press, shoes and luggage never mildew, and moths don't propagate as fast.

3 Stops, 6 Sales from Room Cooler In Station Wagon

PITTSBURGH—Ed Scott of Weston Sales & Service here recently put a Frigidaire window type air conditioner in the back end of his station wagon and went calling on prospects. On his first trip he made three calls and sold six units.

These particular sales, he said, were made to industrial executives who left their offices to come outside and see the demonstration.

Du Mont Branch Named Distributor for Airtemp

MIAMI—The Allen B. Du Mont Florida factory branch announced that it has been appointed exclusive distributor for Chrysler Airtemp room air conditioners in the south Florida area from Vero Beach to Key West.

This is the first Du Mont factory branch to take on another appliance line, according to Henry H. Carver, branch manager.

The branch recently held a reception in the Biscayne Terrace hotel to present the Airtemp line to dealers. Airtemp officials present included Malcom Bard, assistant national sales manager; R. H. Friedel, manager of residential air conditioning sales; and Sidney Anderson, southeastern regional sales manager.

Sarnoff Predicts Electronic Air Conditioner with No Motor

NEW YORK CITY—"Air conditioners, using electronics, eliminating motors, blowers, and compressors, and noiseless in operation, may lead a mighty procession of household products to new markets in the next few years."

So stated David Sarnoff, chairman of Radio Corp. of America, in speaking at the annual banquet of the Institute of Radio Engineers at which he was presented the Founders Award.

Sarnoff has predicted the "electronic" air conditioner before, but has never been so specific in declaring that it would eliminate "motors, blowers, and compressors."

Nashville Utility To Promote Air Conditioning All Summer

NASHVILLE, Tenn.—A summer long promotion on air conditioning and fans is being prepared by the Nashville Electric Service, William D. Hall, sales promotional manager of the utility, announced recently.

Stressing the slogan, "Keep Cool This Summer," the promotion will begin on May 11—immediately following the local Electric Show—and continue through Aug. 29.

Hall said the utility would use newspaper advertising, radio, bill stuffers to the 100,000 NES customers, billboards, and window and floor displays.

"We expect a boom year for air conditioning," he told local dealers.

Connor Drops the W.B. from Name

DANBURY, Conn.—W. B. Connor Engineering Corp. here manufacturers of ceiling air diffusers and activated carbon air purifiers, has shortened its corporate name to Connor Engineering Corp.

Muntz Air Conditioner Not Quite Ready for the Market

EVANSTON, Ill.—The Muntz room air conditioner is not ready for the market at this time, although there is evidence that plans are progressing to put the product on the market.

The following answer was received from Muntz Industries, Inc., a subsidiary of Muntz TV, in answer to a request from AIR CONDITIONING & REFRIGERATION NEWS for information for the listing in this issue:

"We have not as yet progressed in production of our room air conditioner to the point where we can supply you with the data required."

Kassler Takes Universal Line In Los Angeles Area

LOS ANGELES—Appointment of Kassler & Co., Inc. to distribute the complete line of Universal Major Elec Appliance Co., in the Los Angeles area was announced here recently.

Testimonials by Users Sell Window Units for Deal

FORT SMITH, Ark.—Testimonial advertisements featuring local users of Frigidaire air conditioners accounted for more than half the sales made during a sales campaign conducted by the Fort Smith Refrigeration Co.

The Frigidaire dealer selected certain of its users in various professions and income groups as subjects for the advertisements.

50 Room Air Conditioners Installed In Miami Motel

MIAMI, Fla.—The Biscayne Bay Motel here has been provided with 50 Mitchell ½-hp. window-type room air conditioners.

Installed "through the wall," the units were sold to the motel by Dynamic Appliances, Miami. The company reported that "almost every motel in the area has come to realize that air conditioners more than pay for themselves in satisfied guests."

6 BIG REASONS ARE PROFITING

1. Servel Obsoletes Every Refrigerator in America with the new...

AUTOMATIC ICE-MAKER REFRIGERATOR

2. Servel, World's Most Complete Refrigeration Line, Gives Customers...

CHOICE OF 26 GAS or ELECTRIC REFRIGERATORS

3. Servel Creates Biggest New Refrigeration Market with the...

VERSATILE NEW "ELECTRIC WONDERBAR"

4. Servel Takes the Headaches Out of Home Freezer Selling with a new...

NATIONALLY ADVERTISED FREEZER FOOD PLAN

5. Servel Makes Room Air Conditioners a Real Volume Item with...

50% MORE COOLING POWER at NO EXTRA COST

6. Servel Creates Millions of Prospects with Traffic-Building Promotions and a...

\$6,000,000 ADVERTISING CAMPAIGN

See Your
SERVEL
Distributor
Today!

The name to watch
for great advances in
REFRIGERATION
and
AIR CONDITIONING

Servel

Refrigerators
All-Year Air Conditioning Systems

Home Freezers

"Electric Wonderbar"

Room Air Conditioners

Water Heaters

Servel Inc., Evanston 20, Indiana • In Canada, Servel (Canada) Ltd., 548 King St. W., Toronto, Ontario

1953 "BLUE BOOK"
The Nationally Recognized
ILLUSTRATED
Book of Refrigerator
Trade-in Values
•
One trade-in
based on this
BLUE BOOK
will more than
pay for the book!
order your
copy today

\$5.00
each
in quantities
25 or more
\$3.50

**NATIONAL REFRIGERATOR
MARKET REPORT, INC.**
DEPT. AC-1 BOX 606
LOS ANGELES 25, CALIFORNIA

Top-Flight Professional Model Warms Prospects To Cool Subject

MIAMI BEACH, Fla. — Working on the theory that you can not get prospects to buy until you get their attention, the Jackson Refrigerator Service of Miami Beach has used some eye opening methods to lure customers into the store.

At the recent Miami Home Show, the Jackson exhibit stole the spotlight by posing a top flight professional model in a "semi-Bikini" bathing suit at the entrance to their booth. Jackson says there may be little connection between a pretty girl in a skimpy bathing suit and the sale of air conditioning units, but the girl got the people to stop and look.

He says people expect to see potatoes at the vegetable counter and electrical goods at the appliance store, and consequently many attractive conventional exhibits are passed by because people rush on looking for something out of the ordinary.

This startling display of feminine loveliness at an air conditioning exhibit was enough out of the ordinary to cause crowds to stop for a second look. The pause for the second look gave Jackson the chance to go into his sales talk explaining the functions of the model air conditioning unit displayed on a nearby revolving table top.

The Jackson Co. has used many other novel forms of advertising such as sky writing and air conditioned display of live models wearing mink coats.



MIAMI BEACH service firm uses "model" display.

Happy Users or Sore Complainers Making Sure Customer Gets Right Room Cooler, Installed Correctly Will Keep Industry from Getting Black Eye

By Herbert L. Laube, President, Remington Corp.

With the 1953 selling season already upon us, it would seem advisable that those of us who are going to sell the American people an estimated 650,000 or more room air conditioners this summer take another look at a crucial phase of successful selling—proper selection and installation.

A good deal has been said on this subject, but, in my opinion, not enough. Already there are too many instances of dealers selling room units the way a radio or even a toaster is sold.

Already you see the newspaper ads pushing a window unit with the clear implication that all the customer has to do to cool off his bedroom or living room is just "take this unit home and plug it in."

Often nothing at all is said about the capacity of the unit, or installa-

tion and wiring—just that it will do the job. It's still too commonly assumed that a room unit of given capacity will air condition any room of a given size.

We all know how erroneous this is. We all know from experience, or should know, that "there's no such thing as a little air conditioning." The unit is either equal to the job it's bought for, or it isn't.

And if it isn't, the customer who has invested several hundred hard-earned dollars in that unit, with the expectation of cool and comfortable living, sleeping or working this summer, is going to be madder than a humidified hen.

And he's not only going to be sore at the dealer who sold him the unit, and the manufacturer who made it, but at the entire industry. Instead of telling his friends about the benefits to health and comfort of air conditioning, he's liable to criticize it as a fraud. And rightly so, from his point-of-view.

So it can't be said too often—"Be sure the customer gets the right unit for the job he wants it to do, and that the unit is properly installed."

DON'T LET HIM BUY UNIT HE CAN'T AFFORD

If he can't afford to buy a unit of the right capacity, it's far better not to sell him any, but get him to wait until he can afford one which will do the job.

Another point—care should be taken not to sell a customer a unit too large for his needs. He will only spend more than he needs to, and it will cost more to operate than it should.

We must keep in mind that customers are laymen where air conditioning is concerned, and when they buy from a dealer they place themselves in his hands. If he justifies this confidence, he will have turned a customer into a salesman.

SURVEY OF ROOMS NEEDED

To gain this advantage, the first thing the dealer must do is make sure the customer gets the right unit for his needs. This calls for a survey of the room or rooms. The survey should consider the following factors, listed in the order of importance:

1. Exposure of the room. (A room with a southwest exposure is normally the most difficult to air condition properly.)
2. Size of the room.
3. Number of windows and their sizes.
4. Location of the room—whether on the ground or upper floors.
5. Type of construction—whether uninsulated frame or masonry.
6. Whether unit is to be operated during the day or at night.
7. Height of ceilings.
8. Number of people generally occupying the room.

Once these factors have been compiled and assessed—a simple card indicating device such as the Remington Comfort Selector will provide reasonably accurate answers—the required unit capacity can be determined.

Next is the electrical system, which must be checked for proper voltage to be sure it's adequate for proper unit performance. Finally, the unit itself must be installed.

If all of us will keep in mind that the customer's down payment is just the beginning, and not the end, of a successful sale, then the entire industry will go father, faster.

WHY DEALERS WITH SERVEL!



STARTS ITSELF! STOPS ITSELF! REFILLS ITSELF!

Only SERVEL

Makes Ice Cubes Without Trays

...AND PUTS 'EM IN A BASKET

Automatically!

The greatest refrigeration advance of our time! No trays to fill...spill...empty or forget to refill. Always a full supply of huge, loose, ready-to-use IceCircles. The world's only refrigerator with automatic defrost, a full-width freezer and the miracle Automatic Ice-Maker!

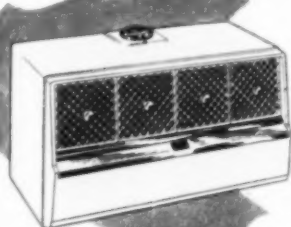
SERVEL Electric Wonderbar

PORTABLE, SILENT REFRIGERETTE STYLED AS SMART FURNITURE



Wonderbar sales have risen phenomenally every month since its introduction. Now it's heading into the big spring and summer seasons backed by 50 national ads!

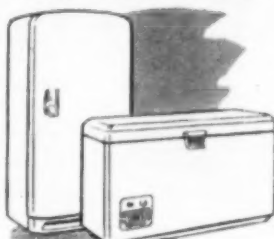
SERVEL ROOM AIR CONDITIONERS



WITH 1-DIAL WEATHER CONTROL

Only Servel offers a ¾ h.p. model at a ½ h.p. price... or a 1 h.p. model at a ¾ h.p. price. Only Servel has exclusive 1-dial weather control.

SERVEL HOME FREEZERS with COLD-SEAL CONSTRUCTION



Cold-Seal construction is one of the industry's most powerful selling points. Servel's nationally advertised food plan eliminates complicated deals and dealer financing.

PeeKay... the Plasti-Kote "Spray" says:

Cut down retouching and refinishing costs with **Plasti-Kote SELF-SPRAY FINISHES**



Paint and Pressure in one container. Ideal for touch-up and re-finishing.

PLASTI-KOTE, INC.
425 Lakeside N.W. Cleveland 13, Ohio

Air Conditioning Rental Plan

Contractor Offers Plan to Business Firms with These Advantages: (1) No Big Capital Outlay, (2) Tax-Deductible Expense, (3) No Maintenance Worries

RICHMOND, Va.—What is the appeal and advantage of a "rental plan" for the buyer of air conditioning, and the seller of air conditioning at retail?

Very bluntly, the idea of renting air conditioning should have appeal for only one type of customer—the business organization that is in a high tax bracket.

For organizations which are in this tax situation, a plan of leasing air conditioning equipment offers benefits through (1) no need to make a large capital expenditure; (2) financial and tax advantages afforded by the legitimate tax-free expense of rental and maintenance contracts; (3) freedom from maintenance costs and worries.

Other Equipment Rented For Many Years

Such rental plans are not new to American industry. Such products as business machines, trucks, and certain types of manufacturing equipment have been rented for a good many years.

But just how is a "rental plan" applied to a comfort cooling type of air conditioning system purchased by a business establishment?

Perhaps the best way to describe the details of such a plan is to take a look at how a plan that has actually been developed by an air conditioning contractor, and which has

been "sold" to a certain number of lessees.

Such a "rental plan" has been placed in operation by Catlett-Johnson Corporation of Richmond, Va., refrigeration and air conditioning contractor with more than 16 years' experience in the industry. Richard H. Catlett, president of the firm, advises contractors to take these initial steps before starting out on a "rental plan" program:

Return on Capital Spread Out

(1) Review their own financial situation, keeping in mind the fact that they (the contractor) will be making the initial investment in the equipment used in the rental plan with their own capital, with the return on this investment spread over a number of years.

(2) Submit the details of the plan to legal and accounting counsel, and if possible attempt to get an opinion from the Bureau of Internal Revenue that will validate taking the rental plan payments as deductible expense in estimating taxes. A particular point to check getting such an opinion is the matter of making certain that the exercise of the purchase option of the contingency provisions will not invalidate deductions for rental previously paid.

Catlett says that Bureau of Internal Revenue officials cast a wary eye on the type of rental agreement that

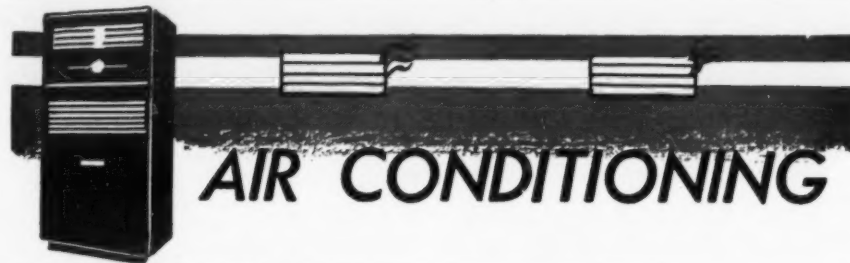
seems to be merely a deferred payment purchase rather than a rental agreement. However, the Bureau has told Catlett-Johnson Corp. that it is not necessary to be bound by the normal depreciation allowances in determining an allowable purchase option at the end of the rental period and that the distributor's purchase option was high enough to prevent an assured sale at that time, taking into consideration probable improvements in equipment resulting in obsolescence as well as depreciation to reduce the ultimate value of the installation.

The business establishment that contracts to pay rental for air conditioning equipment (becoming the "lessee" in legal terminology) is doing more than merely renting equipment. It is, as Catlett-Johnson points out in its prospectus, the plan that "makes it possible for the profit making business to obtain the comfort and efficiency of air conditioning without large capital outlay, and without the worries and hazards of maintenance and repairs."

Includes Equipment, Ductwork, Electric Service, Labor

In its prospectus to selected prospects, Catlett-Johnson points out that air conditioning installations include:

1. Basic mechanical equipment such as self-contained air conditioners or compressors and con-



densers, water saving devices, pumps, and control instruments.

2. Air distribution systems (ductwork).

3. Water and drain service and connections.

4. Electric service and connections.

5. Installation labor.

It is pointed out that Item 1 consists entirely of recoverable and identifiable equipment. Items 2 through 5 are either intangibles or they become a part of the realty.

Having thus described the kinds of material and labor that make up an air conditioning installation, the Catlett-Johnson prospectus then continues:

Gives Quotation

"On your request we make the necessary surveys of your property and prepare a quotation which is divided into two parts, the price of recoverable equipment, and the price of non-recoverable equipment and services. The sum of these parts is the price we would charge for the complete job on a sales contract of the usual type.

"With our contract proposal to selected prospects we offer the rental and maintenance option. This option provides that the work included in Items 2 through 5 (in the description of an air conditioning installation) will be installed for a fixed price, payable under usual contract terms.

"The equipment included in Item 1 is listed by make, model, and other description and is offered on a rental basis, including complete maintenance and repair service and insurance.

"The contract sets forth clearly the conditions under which the system will work, the conditions to be maintained, and the guarantee."

There's a factor in this rental plan that should have a strong appeal for the possible purchaser of such a contract, and Richard H. Catlett of the Richmond firm puts it this way:

"The better the job, the more chance of profit to the contractor."

Contractor Must Stand Maintenance Expense

What is meant by this is simply that since the contractor agrees to a complete maintenance program on the installation, meaning that he has to stand all expense of any repair or maintenance work done on the installation. Thus, it is certainly to the contractor's advantage to see that the installation is installed as perfectly as possible, and checked with care to see that no major breakdown occurs.

But wouldn't such a guarantee of complete maintenance lead to a lot of nuisance calls from users of the rental plan?

That's possible, Catlett concedes, but it's up to the contractor to make the installation as near-perfect as possible, and to keep a high standard of preventive maintenance, so that there will be a minimum of cause for user complaints.

In establishing rental and maintenance charges, Catlett says, it is a good rule-of-thumb to set up the charges on the basis of assuring the contractor a profit if he took back the equipment and had to recondition it for re-sale. Such a pricing method demands careful consideration of cancellation charges.

The Catlett-Johnson rental and maintenance plan contract is written for a term of five years to establish a basis for rental payments.

"It is the expectation and intent of the parties to the agreement" says the prospectus, "that it will continue in full force throughout its term, and

(Concluded on Page 10)



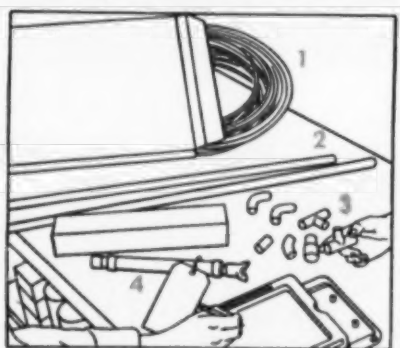
PIPING SITUATION WELL IN HAND...

and this refrigeration contractor is going to keep it there! He is going to install an all-ANACONDA Copper job. Why? Because uniform temper and precision-made fittings help speed up his work... help maintain his reputation for quality. He's found it also pays—in

prompt, reliable, dependable service—to buy from his regular jobber. Your jobber can fill all your piping requirements. Be sure to call on him. Always ask for ANACONDA Refrigeration Products and look for the familiar ANACONDA Spearhead.

THE AMERICAN BRASS COMPANY, Waterbury 20, Connecticut
In Canada: Anaconda American Brass Ltd., New Toronto, Ontario

COMPLETE LINE OF ANACONDA REFRIGERATION PRODUCTS



THESE PARTS ARE MATCHED IN SIZE AND PERFORMANCE TO WORK TOGETHER

1. Copper tubes in 50-ft. coils.
2. Hard copper tubes in straight lengths.
3. Fittings (elbows, tees, couplings, unions, adapter and reduction combinations, etc.).
4. Vibration Eliminators.

E-Z-SEE LIQUID INDICATOR



NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof—hundreds of thousands in use.

Available to Wholesalers everywhere

REMCO INCORPORATED
ZELIENOPLE, PA.

IT'S BRAND NEW!

The Quiet-Air Self-Contained Air Conditioner 2 and 3 HP Models



IDEAL FOR NEW OR EXISTING HOMES

Territories Available for Distributors

QUIET-AIR MFG. DIV.
1615 SECOND AVE.
NEW YORK 28, N. Y.

Now your EARS can "SEE" those hidden troubles

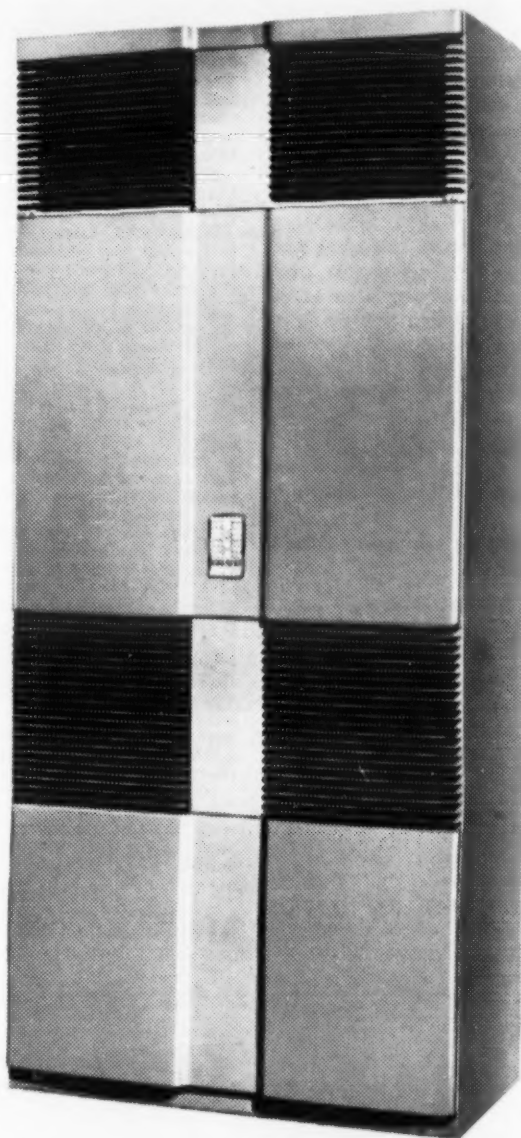
NEW MARSH Serviceman Soundscope

... cuts servicing and maintenance costs

Most effective instrument ever developed for pin-pointing and identifying mechanical defects. Saves time and dollars tracking down troubles in bearings, gears, mechanisms... detects leaks, knocks, piston slaps—any defects that make a sound. A precision instrument of Marsh quality, sensitive to faintest sounds... with handy probe and headband as illustrated. A remarkable tool, moderately priced.

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corporation
Dept. D, Skokie, Illinois

Ask for Circular



Number One in the Nation

More people buy Carrier Weathermakers than any other packaged air conditioner

More fine restaurants, more smart stores, more busy offices . . . more *people* buy Weathermakers than any other packaged air conditioner. They like its beauty . . . its distinctive styling and gleaming baked-enamel finish. They like its quietness . . . with the QT Fan you can hardly hear the Weathermaker run. And, especially, they like its performance . . . feature for feature the finest money can buy. Because it is built by the people who know air conditioning best.

Act NOW. Send coupon today for full facts on how you can sell Carrier Weathermakers.

CARRIER CORPORATION
310 S. Geddes Street
Syracuse, New York

I want to sell Carrier Weathermakers.
Please send name of Carrier distributor
nearest me.

Name _____

Company name _____

Street _____

City _____

State _____



AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

Air Conditioning Rental Plan--

(Concluded from Page 8)
that a renewal based on the then current costs will be negotiated.

Purchase Option Offered

"For the protection of both parties, however, there is included in the contract a schedule of charges for cancellation by the lessee or for purchase of the equipment at the end of any year. The purchase option is based on the value of the equipment to the lessor as second hand equipment for resale, no credit being given for rental payments previously made. Rental charges and contingency schedules will vary somewhat with size and type of equipment."

The following is an approximate schedule of an annual rental and maintenance charge set up by Catlett-Johnson Corp. as it would apply to a small installation of self-contained equipment. (This schedule is not a definite, fixed pattern set by the company, and would be subject to change in actual practice for a variety of reasons).

Typical Rental and Maintenance Charges Per \$1,000 Sales Price

Yearly in advance ... \$300.
(Quarterly or monthly rates as slightly higher percentage).

Typical Contingency Schedule Per \$1,000 Sale Price

	Purchase Option
End of First Year	\$870
End of 2nd Year	740
End of 3rd Year	610
End of 4th Year	480

(Cancellation charges are worked

out for each rental contract, and are specified in the lease and maintenance agreement).

Following is an example of how this works out in practice:

Let's take a contractor proposal for \$3,600, of which \$600 was the price of the unrentable features and \$3000 was rentable. The \$600 cost is paid as leasehold improvement or as capital expenditure.

The cost of the Rental and Maintenance contract is 3 x \$300 or \$900 per year.

For firms in the 52% Federal tax bracket the net cost (to Virginia taxpayers) is only \$410.40 per year after tax saving. Those firms which are in the 82% Federal income and excess profits tax bracket will realize proportionately greater advantage from the use of the contract.

"In developing our schedule of charges," says Catlett, "we have had to include consideration of the following items:

- "1. Value of the equipment itself.
- "2. Cost of financing.
- "3. Cost of insurance.
- "4. Cost of unconditional service contract.

"5. Cost of personal property tax, since this equipment remains a part of our personal property inventory. "Add up all of these together and apply a proper markup and you arrive at the approximate \$300 per \$1,000 figure.

"No one can afford to undertake a rental agreement without considering all of these costs. The markup will, of course, be large enough to

provide for credit risks, bookkeeping, and general overhead."

A copy of the lease and agreement offered by Catlett-Johnson follows:

LEASE AND AGREEMENT

THIS LEASE AND AGREEMENT made this day of 19....., by and between CATLETT-JOHNSON CORP., a Virginia corporation, its successors and assigns, having an office and place of business in the City of Richmond, Va., and hereinafter designated as Lessor, and its successors if a corporation, and its heirs, next of kin, executors and administrators, if an individual, proprietorship, or partnership, hereinafter designated as Lessee.

WHEREAS Lessee desires to secure air conditioning in the manner and for the area hereinafter designated:

WHEREAS Lessor is willing and able to furnish the necessary equipment therefor and to install the same and maintain the same and has facilities so to do;

WHEREAS the primary purpose of this agreement is to provide for the rental and maintenance of the air conditioning equipment belonging to Lessor as hereinafter set out;

WHEREAS in order that the equipment to be leased hereunder shall be properly installed and shall function properly, it is necessary that certain work, materials, and services be done or provided by Lessor which are not subject to rental and the parties desire to include herein a specification of such work, materials and services, the price thereof, and the terms of payment thereof; and

WHEREAS in recognition of the possibility that the conditions and expectations which have led to the execution hereof by Lessee are subject to unexpected change, the parties desire to provide herein, against the happening of such contingency or contingencies, a schedule of prices and terms on which the lease agreement may be terminated by the Lessee prior to the normal expiration thereof.

NOW THEREFORE in consideration of the matters above recited, of the mutual undertakings herein set out and of other good and valid considerations, the parties hereto do agree as follows:

Permanent Installation

1. Lessor agrees to furnish the work, materials, and services set out in Exhibit

A hereto attached and made a part hereof in the manner and form therein shown and Lessee agrees to pay therefor the amount shown in said Exhibit A at the time or times therein specified.

After payment thereof, Lessor shall have no right in or title to such materials and property installed pursuant to this paragraph. Lessor covenants that such work will be done in a workmanlike manner in accordance with the specifications set out in said Exhibit A.

Area To Be Air Conditioned and Equipment To Be Leased

2. Lessor hereby agrees to furnish air conditioning to the area shown on the Exhibit B attached hereto and made a part hereof and Lessor hereby leases to Lessee and Lessee does hereby take and rent from Lessor in accordance with the terms herein set out the air conditioning equipment likewise listed in said Exhibit B, hereinafter sometimes referred to as leased equipment.

Terms of Rental

3. The rental term hereunder shall commence upon either the time of completion of the installations set out in paragraphs No. 1 and No. 2 or on the day of whichever is the later time. Lessee agrees to pay Lessor beginning upon the date of the commencement of the term a rental, in advance, of \$..... per and a like amount each thereafter during the term hereof. The rental term hereof shall be five years. Payment shall be made to Lessor at its office in Richmond, Va., or at a place to be designated by Lessor in writing to Lessee.

Servicing of Rented Equipment

4. Subject to all the terms, conditions, and limitations set out in this agreement, Lessor hereby agrees to maintain, service, and if necessary, replace, or substitute for, the items leased under this agreement. Lessee agrees to give to Lessor prompt notice of any need for servicing. Lessor agrees periodically to inspect and if needed service such equipment during the regular business hours of Lessee.

In so doing Lessor will use its best efforts, so far as possible, to provide Lessee with uninterrupted air conditioning, but in so doing Lessor shall not be responsible on any account for the failure of such leased equipment to provide air conditioning and it is agreed between the parties that Lessor shall have a reasonable time, under the circumstances, to make repairs and replacements as required hereunder.

Right to Cancel

5. Lessee shall have the right during the rental term herein specified, upon giving written notice thereof to Lessor, to cancel this lease and to have Lessor remove the leased equipment upon the payment to Lessor, in addition to all accrued rent, a cancellation charge in accordance with the following schedule:

At end of first year \$..... At end of second year \$..... At end of third year \$..... At end of fourth year \$.....

Should such right of cancellation be exercised at a time other than upon a yearly anniversary from the date of the commencement of the rental term hereunder, the cancellation charge in effect at the time of the preceding anniversary thereof shall be applicable and there shall be no proration.

Right to Purchase

6. Lessee shall have the option during the continuance of the rental term set out in this agreement, upon written notice to Lessor and upon the payment in accordance with the schedule hereinafter set out, to purchase the leased equipment, such schedule being as follows: At the end of first year \$..... At end of second year \$..... At end of third year \$..... At end of fourth year \$..... At end of fifth year \$.....

Should the purchase option hereunder be exercised by Lessee at a time other than upon a yearly anniversary date of the commencement of the rental term hereunder, the purchase price applicable to the yearly anniversary date of the preceding year shall be applicable and there shall be no proration thereof.

Upon the exercise of the purchase option by Lessee, Lessor shall deliver a bill of sale to Lessee and the Lessee shall have the privilege of removing any identifying markings from the equipment showing that it is leased from and owned by Lessor.

Removal of Equipment

7. Upon default in the payment of any rental installment provided herein, upon the exercise of the cancellation privilege

payment, or upon termination of the lease without a renewal lease agreement being entered into or the exercise by Lessee of the cancellation option or purchase option, Lessor shall have the right upon reasonable notice to Lessee to enter the premises of Lessee and to remove the equipment without being responsible for any damage therefor.

Lessee agrees not so to obstruct access to the equipment as to interfere with such removal, and, if no obstruction is encountered by Lessor, Lessor will make no charge for the removal in addition to the charges as set out herein; provided, however, that should there be obstruction to such removal, Lessor may itself provide access and charge the Lessee therefor and Lessee by the execution hereof agrees to pay to Lessor the cost of procuring such access.

Upon default in the payment of any rental installment, and the continuation thereof for a period of 30 days, resulting in the removal of the leased equipment, Lessee agrees to pay to Lessor the applicable cancellation charge as set out in paragraph 5 above.

Performance, Conditions, and Guarantee
8. The performance, conditions, and guarantee of the leased equipment, as assumed and agreed to by Lessor, are as stated in Exhibit C, attached hereto and made a part hereof.

General Provisions

9.A--The leased equipment and all parts thereof, unless a purchase thereof is made as is herein provided and until full payment of such purchase price is made in cash to Lessor, shall retain its character as personal property and the title thereto shall not pass to Lessee but shall remain in Lessor.

B--Lessee shall not remove, conceal or otherwise interfere with the title or ownership identification affixed to or upon the leased equipment until and unless the equipment is purchased and full payment therefor is made as herein provided.

C--Should Lessee sell, assign, or attempt to sell or assign the leased equipment or any interest therein, or if Lessee should default in any of the covenants, conditions, or provisions of this lease, Lessor may, except as herein elsewhere provided, immediately and without notice take possession of the leased equipment whereafter found and remove and keep or dispose of the same and Lessee agrees to pay any damages occasioned Lessor thereby and to pay the cancellation price hereinafter set out.

If any step is taken by legal action or otherwise by Lessor to recover possession of the leased equipment or otherwise enforce this agreement or to collect monies due hereunder, Lessee shall pay Lessor the equivalent of the monies expended or charges incurred by Lessor in such behalf, including a reasonable attorney's fee.

D--Neither this lease and agreement nor any right or interest in the leased property shall be assigned by the Lessee in any respect whatsoever, without the written approval of Lessor.

E--The undertakings and guarantees of the Lessor herein are at all times contingent upon the furnishing by the Lessee of an adequate and continuous supply of electricity, and where applicable, a proper supply of water and proper functioning of heating equipment.

F--Lessor agrees that it will insure the leased equipment against loss by fire with extended coverage.

G--In the event of condemnation of the premises upon which the leased property is installed, Lessee shall have the option to exercise the cancellation provision or the purchase option, but Lessor shall have no obligation to reinstall the equipment at the same or other premises in the absence of a new agreement therefor.

H--Lessee shall be liable to Lessor for any damage to the leased equipment caused by misuse, vandalism, mischief, or negligence of the Lessee.

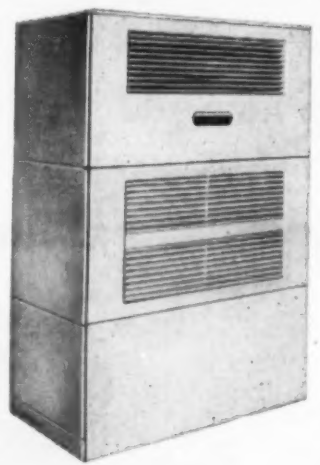
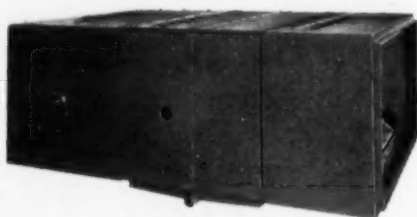
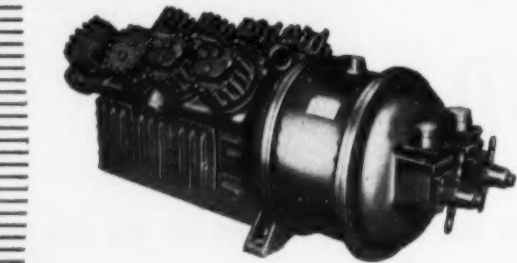
I--Lessee shall give to Lessor prompt written notice of any judgment levy, attachment, distress warrant or other legal proceedings or levy placed upon or against any or all of the leased equipment.

CATLETT-JOHNSON CORP.

By
Landlord's Acceptance

Undersigned, owner of the premises in which the leased equipment herein is placed does hereby consent to the terms of the foregoing agreement and does hereby agree that the leased equipment is and shall, in accordance with the provisions of the foregoing, remain personal property.

By



SELL WESTINGHOUSE

The Broadest Air Conditioning Line

Completeness of line is a big selling point. When it comes to air conditioning, Westinghouse has it. What's more, components in Westinghouse Air Conditioning equipment are made with proved Westinghouse parts. This undivided responsibility is backed by endless research and engineering, and with years of experience. Westinghouse promotes the broadest line in the industry with an aggressive advertising and sales-aid program.

You will profit as a franchised Westinghouse Distributor. A few territories are still open. Contact Westinghouse Electric Corporation, Air Conditioning Division, Hyde Park 36, Massachusetts.

WESTINGHOUSE AIR CONDITIONING

YOU CAN BE SURE...IF IT'S **Westinghouse**

AMERICA'S FINEST, MOST COMPLETE

BEVCO

Line of
COOLERS




QUALITY COOLERS YOU CAN FIT INTO YOUR LINE and SELL AT A PROFIT

You sell quality, trouble-free cooling in these electric units that operate wet or dry. In 3 sizes . . . 4, 5, 6 ft. Unobstructed interiors. Baked Enamel finish for beauty and sanitation.




Render your cooler mobile for convenience.

SEND FOR CATALOG N-3.

The BEVCO Company, Inc.
2316-28 S. BROADWAY - ST. LOUIS 18, MO.

Announcing—

The New 1953 UNIVERSAL Room Air Conditioner Line



(MODEL 75-53B
3/4 TON)

It's Smartly Styled!

With a beautifully designed cabinet and a new modern grill front, this 1953 Universal Room Air Conditioner harmonizes with the decorating scheme of any room. Finished in beige with a mahogany grill or all mahogany finish if desired.

It's Quiet!

Condenser and compressor are located outside of the room for really quiet operation. Fans and fan motor are designed to reduce noise to a new low level of silence.

It's Efficient!

Cooling capacity of 3/4 ton model is 9,100 BTU per hour for rooms up to 485 square feet. The 1/2 ton model has 6,100 BTU per hour cooling capacity for rooms up to 325 square feet.

It's Draft-Free!

Extra-large grills on front and sides handle maximum air flow without drafts. Louvers are made of strong, lightweight aluminum and are adjustable for controlled air flow.

It's Priced to Sell!

The 1953 Universal Room Cooler Line is feature-packed for maximum value. Each hermetically-sealed unit carries a five-year warranty. Automatic thermostat control is optional equipment. All models are priced realistically to sell in today's highly competitive market . . . and give you a worthwhile profit. Feature Universal in your store *now* . . . get an early start on the season.

Phone or Wire Your Universal Distributor today for full details, prices and delivery on the pace-setting Universal line. Don't wait for hot weather. *Start selling today!*

SPECIAL CASEMENT WINDOW MODEL

The Universal Model 60-CT is a 1/2 ton room cooler designed for casement windows. Small, compact, it's easily installed and does a full-size job of air conditioning in little more than one-square foot of window space!



The Oldest Name in Home Appliances . . . Means Everything in Major Appliances

UNIVERSAL

Universal Major elec Appliance Company—Lima, Ohio

Detroit Edison Survey Shows

What Type Homeowner Buys Room Conditioners; How Users Feel About Cost, Looks, Performance

DETROIT—The average window air conditioner in Detroit will consume 201 kwhr. in a normal season and cost the user about \$6 a year for electricity, the Detroit Edison Co. has found in a preliminary study.

This is based on a survey made by the utility in 1952 when kilowatt-hour meters were installed on 35 such units here. In addition, utility representatives interviewed 203 of its residential power customers who have window conditioners to determine their likes and dislikes of the appliance, and to obtain detailed information as to where it was installed, etc.

Report of the survey, which was conducted in July of 1952, has been held confidential by Detroit Edison until the present.

The 35 units equipped with meters

during 1952 actually consumed an average of 282 kwhr., but the summer was considerably warmer than normal. In fact, Edison figures show there were 7,840 "degree-hours" in 1952 compared with the normal of 5,600.

(A "degree-hour" is a measure of the heat outside when cooling might be necessary. Each hour that the outdoor temperature is 1° above 75° F. constitutes 1 degree-hour.)

Further study of power consumption and hourly demand characteristics of the window unit may be conducted by Detroit Edison, but this initial survey obviously indicates that the operating cost will be almost negligible for the average user hereabouts.

In its study last year, Edison found that 70% of the units possessed by

the 203 customers interviewed were installed in bedrooms. The living room was the next most popular location for the unit (12.7%); then follows the dining room (7%), and other rooms which accounted for 7.3% of the installations. Unit location couldn't be determined in 3% of the cases.

"In 89.2% of 181 of the cases, only one unit was in the dwelling," says this report. "In 8.8% of the cases two units were owned by the respondent; and in 2.0% or four of the cases three units were owned."

Here's another interesting point: "About half of the room air conditioner owners live in homes that are over 20 years old (49.3% or 100 owners); 25.1% or 51 owners live in homes that are 10 to 20 years old; 16.7% or 34 owners live in houses less

than five years old; 8.9% or 18 owners live in houses five to 10 years old."

In the great majority of cases (76.4%) users owned their homes, it was also found. Only 23.6% were tenants. And in nearly all instances (194 out of 203), the dwelling unit was located in an urban area (defined in the report as "incorporated places with a population of 2,500 or more).

Most of (55.2%) the dwelling units had four to six rooms, not counting baths. Twenty-one or 10.4% were one to three rooms; 19.7% were seven to nine rooms; 10.8% were 10 to 12 rooms; 3.9% were 12 rooms.

The Detroit Edison report of its survey includes a feature that is especially interesting:

"In answer to the question, 'Do you have any comments on the satisfac-

tion, noise, service problems, appearance, etc.?' the following groupings may be made (no percentages are used because one person may have had two or more comments):

Satisfactory	147
Needs thermostat	6
Noisy—inside	26
Noisy—outside	7
Doesn't cool enough....	7
High cost of operation ..	3
Unattractive—too big ..	2
Service problems	5
No comment	23

"All of the six customers who suggested a thermostat control did so because it was necessary for them to get up at night and manually turn off the cooler because of the low temperature in the room.

Each of the seven customers who commented that the cooler did not reduce the temperature of the room sufficiently were attempting to cool several rooms, and in several instances the entire hall and room area. The noise of the cooler operating in the room was the most objectionable feature of this appliance.

"Several customers were requested by their neighbors to turn off the cooler at night because of the noise," the report states.

Following are some of the "favorable" and "unfavorable" comments obtained from users in the Edison survey:

FAVORABLE COMMENTS

"I happen to be an allergy patient for 17 years and I think it's a wonderful thing for that—it purifies the air. At first I had to use ear plugs. They are noisy."

"I love it. Nobody could possibly unshell me on them. I would like two more for my dining room. Very little noise—does not bother me."

"We like it very much. It is wonderful to be able to sleep under a sheet and sometimes a blanket. It isn't very noisy, just a hum. We let it run until about three o'clock in the morning. Then I turn it off and it is cool the rest of the night. I do not think it is too bad looking. It is for comfort, anyway."

"It's not noisy. I won't even let them take it out in the winter. It ventilates as well as cools. It was wonderful to have, as we used this room as a hospital room for one year."

"My husband works nights and, of course, sleeps days. He got unit for the cool air, but mostly so he could shut out the noise of street and children. This unit was the perfect answer for that. He is very pleased. I don't like to have it on at night while I'm sleeping. I'm afraid something might go wrong with it."

"It's a life saver. A wonderful outfit. It's been a Godsend to me. I work nights, and this unit keeps street noises out and gives me perfect rest."

UNFAVORABLE COMMENTS

"Very noisy but it does a grand job of cooling."

"The service is so poor. We wait and wait. They come out here and want you to sign for service contract whether or not you use it. We have trouble getting unit to start sometimes."

"My one great criticism is the high cost of service, over \$50. The cost of installing it is outrageous (\$35) for two men who wasted about three hours around here. One man could put it in or two men could do it easily in a half hour. The men get \$5 per hour. That's a lot of money—in fact, too much money."

"The noise bothers me. I hear it with my daughter's door closed and the noise is bad outside. I do not like the looks of it at all. I kept asking

(Concluded on next page)



"SPENT \$40 ON THESE ADS...

...sold \$15,000 worth of Fedders Room Air Conditioners!"

says: **LOU NACHMAN,**
Nachman & Co., St. Louis



"Phone calls started immediately after the first one of these Fedders dealer newspaper ads ran," says Lou Nachman. "Ninety per cent of the people we contacted bought Fedders units. We sold 50 units from 3 ads that cost us exactly \$40!"

Fantastic? No, sir! Dealer after dealer who tied in with Fedders Newspaper Ad Program in '52 sold out his entire stock of Fedders units and kept his Fedders distributor hopping with replacements.

Tie in this year and let it happen to you. Here's

what Fedders dealer ad program gives you:

1. The biggest, most concentrated barrage of newspaper ads ever run during the hot season.
2. Lower cost per ad.
3. Your name in BIG PRINT in your own market.

See your Fedders distributor right away about the 1953 Fedders Dealer Newspaper Advertising Program. Or mail the coupon today!

FEDDERS

A GREAT NAME IN COMFORT

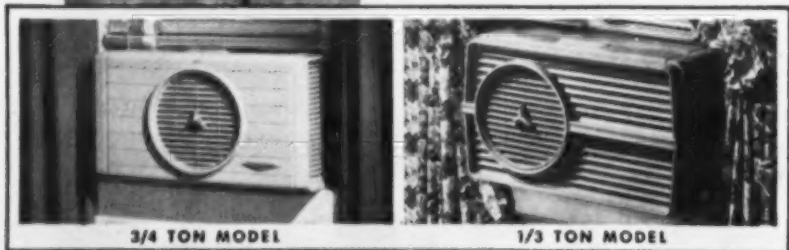
MAIL THIS COUPON TODAY!

FEDDERS-QUIGAN CORP., Dept. AC-4, Buffalo 7, N. Y.
Gentlemen: I want to get in on Fedders Dealer Newspaper Ad Program. Please rush me details.

Name.....

Address.....

City..... Zone..... State.....



CORKBOARD

- Steam-Baked
- Price—20% Lower
- Fed. Specific. H. H.-C561B

WRITE FOR PRICES

SUPREME INSULATION INC.
55 W. 42nd St., New York 18, N. Y.
Telephone OXford 5-1474

Window Cooler Survey--

(Concluded from preceding page)

the men while they were installing it why they didn't make it more compact and white and better looking. I have got to put up drapes on the side and on the wall with a cornice board. I'll have to get used to it because it does so much good. It really is wonderful to be able to have a blanket over you on such nights."

"It annoys me very much. So noisy. It is really separating me and my husband. I can't stand the hum so I sleep in the living room. If the children wake up at night, he has to take care of them. The unit is too small for the room. My husband is going to remove it and put it in his office and get a large unit for his room. It is too much effort to try and keep the doors closed."

"It isn't too satisfactory. With the amount of money one puts into them one expects better results. We expected them to survey the upstairs and suggest the best place to put it but they didn't bother and it was left to me. I chose the hottest of the two bedrooms and maybe it's in the wrong place. An engineer was with them when they installed it and he thought everything worked fine, but we don't think the exhaust works. "I really expected it to cool off the entire upstairs (just an archway between two bedrooms) but in the other room the air doesn't seem to circulate at all and it's so stifling. I thought we had something; air circulation without draft."

G-E's Investment Analysis Shows How Conditioning Ups Sales, Saves Money

BLOOMFIELD, N. J.—A "quick and simple" investment analysis technique has been developed by General Electric which will determine in dollars and cents how much the installation of air conditioning can help boost the sales and income of stores, restaurants, and similar places of business.

This technique can also be used by office and industrial employers to find out how air conditioning can save them money through increased employee efficiency.

The analysis also shows how many years it will take for the air conditioning to pay for itself.

The fact finding formula with typical examples is available in two booklets, one covering stores and restaurants, and the other industrial and office installations. They may be obtained by writing to the Air Conditioning Div., General Electric Co., Bloomfield, N. J.

Acme Sales for February Double Those During '52

JACKSON, Mich.—February sales of refrigeration production by Acme Industries, Inc. here were double those of February, 1952 and March sales to March 17 were 120% ahead of March last year, Carl W. Millsom, sales manager, reported recently.

"This shows the tremendous increase in sales of Acme condensers, dry X chillers, evaporative condensers, etc., to air conditioning equipment manufacturers as well as the increase we are so proud of in field sales of Flow Cold liquid chillers and other Acme products," he said.

Hunter, Van Haecke Named To Guide Amana Planning Dept.

AMANA, Iowa—Amana Refrigeration, Inc., manufacturer of food freezers, recently named a new superintendent and a supervisor for its planning department.

David W. Hunter, new planning department superintendent, is in charge of scheduling material flow in the factory, and William L. Van Haecke, named planning department supervisor, is responsible for the planning and scheduling of production.

Hunter, a native of Capac, Mich., who joined Amana recently, has had eight years of freezer manufacturing experience. He studied business administration at City college (now Wayne university) in Detroit.

A native of Waukegan, Ill. Van Haecke brings five years of planning experience in the freezer industry to his new post.

SOLD FIRST PROSPECT STOP
HAVE PLENTY OF PROSPECTS
STOP NEED TWO MORE
CASES AT ONCE

Maintain Store Engineering
Boston, Mass.
Rus Maintain

WE'RE REALLY ENTHUSED
RUSH ADVERTISING MATERIAL
FOR INSERTION IN OUR LOCAL
NEWSPAPERS WHEN WILL
TRUCK DELIVER ADDITIONAL
ORDER FOR TWO SERVICOLDS

Virginia Fixtures
Norfolk, Va.
Charlie Cohen

DISPLAYED SERVICOLD IN
FRONT SHOWROOM SOLD IT
SIX HOURS LATER TO FIRST
PROSPECT

Laiher Refrigeration Co.
Brooklyn, N. Y.
R. I. Laiher

BALLY IS SURE "ON THE
BALL" WITH SERVICOLD
HOPE YOU CAN MEET OUR
REQUIREMENTS FOR MAY
AND JUNE

Frank Williams & Sons
Greenville, S. C.
Frank Williams

WE THOUGHT COLDISPLAY WAS
A HOT ITEM SERVICOLD IS
MUCH MUCH HOTTER SOLD
THREE CASES IN ONE WEEK

Gem Refrigeration Co.
Philadelphia, Penna.
Emil Gruher

WE HAVE RECEIVED AND
UNCRATED THE FIRST OF THE
SERVICOLD AND ARE VERY
ENTHUSIASTIC ABOUT SAME

Paramount Refrigeration
Los Angeles, Calif.
Fred Schimmel

UNLOADED SAMPLE SERVICOLD
SALESMEN ENTHUSED
SHIP THREE MORE BY TRUCK

Childs Equipment Company
Pittsburgh, Penna.
Lou Childs

SERVICOLD CANVASSING HAS
UNCOVERED 20 NEW PROSPECTS
IN ONE WEEK ALSO GAVE US
LEADS ON 3 STORE ALTERA-
TIONS THAT WE EXPECT TO
CLOSE SHORTLY

New Market Company
Phoenixville, Penna.
Graham Perley

EVERYONE IS TALKING ABOUT THIS SENSATIONAL NEW

SMALL SIZE
SELF-SERVICE

BALLY SERVICOLD

IT'S ONLY 60 INCHES LONG! SELL IT WITH YOUR PRESENT LINE!

It's brand new open refrigeration for Delicatessens, Meat Markets, Grocery Stores, Dairies, Confectioneries, Drug Stores, Florists' Shops... you can sell it everywhere.

1 It's small... only 60" long, 30" deep, 55" high... makes it easy for every "Ma and Pa" store to get into self-service selling. Big sales-getter for Super Markets when used as a "Spot Special" case.

2 It's open style... easy self-service for the small store... just what they need for dairy products, fruits and vegetables, meats, delicatessen, candy and baked goods. Finish is genuine Bally acid-resistant porcelain for lifetime service... never turns yellow or peels.

3 Displays plenty of merchandise... in addition to the roomy main shelf there is an ample sized refrigerated mezzanine shelf for extra display. Complete display is doubled in appeal by the lifetime copper-back mirror angled to catch the eye.

4 Large refrigerated compartment... located in lower section of the case provides perfect storage space to keep extra supplies of all types of perishable foods.

5 It's easy to install... only 30" deep to go through the narrowest door of any small store. Just put the case in position, plug in the nearest socket and you're ready to refrigerate.

6 No compressor worries... powerful 1/3 horsepower noise-free hermetic compressor with capillary tube built in (5 yr. warranty). Merchandise is preserved and protected by a constant flow of cool dew-laden air.

List Price **\$990⁰⁰** F. O. B. Bally

SERVICOLD 60 IS AVAILABLE TO FRANCHISE DEALERS OF OTHER LINES IN TERRITORIES WHERE BALLY IS NOT BEING SOLD

WRITE TODAY FOR MORE DETAILS

BALLY CASE & COOLER CO.
Bally, Pennsylvania

Gentlemen:

Please rush full information about the new BALLY SERVICOLD 60.

NAME

COMPANY

ADDRESS

CITY

STATE

BALLY CASE & COOLER COMPANY
BALLY, PENNSYLVANIA - TELEPHONE: BALLY 5-2311

Cold Canvassing Sells Commercial Coolers

Cold Canvasser Hits Hot Prospect on Way Out To Sign Contract with Competitor, Winds Up Selling 4 Brothers Conditioning for 4 Stores

By George M. Hanning

DETROIT—Does it pay the air conditioner salesman to cold canvass?

It most certainly does, asserts Walter Landmesser, manager of retail sales for York Corp. Landmesser compiled the following results from a cold canvass tour he made with a distributor salesman last year:

Cold Canvass calls made to business places—43

Elapsed time worked—7 hours
Installations made as a direct result—7 store coolers

Volume of business gained—\$11,535
Volume of business per hour of canvassing—\$1,648.

"If I can do it," declared Landmesser before a distributor meeting here recently, "anybody can do it."

He told this story of how the canvassing tour came about and what occurred:

As part of York's 1952 air conditioning sales drive, Landmesser was out getting pledges from distributors and their salesmen to make at least 10 cold canvass calls a day for a few weeks in order to prove to themselves that cold canvassing would pay.

Everything went well, he said, until a meeting in Philadelphia. At that meeting, one salesman refused to take the pledge.

"Why not?" asked the flabbergasted Landmesser.

"No one can make 10 calls a day," replied the salesman.

"If I can prove to you that I can make 15 cold canvass calls in one day, will you promise to make 10," asked Landmesser.

The salesman looked him right in the eye. "If you can make 15 calls a day, I can make 20."

That was just what Landmesser wanted. Right then and there, before all the other salesmen and distributors, he made a date with the salesman—Walter Grossman of Elliott Lewis Co.—when they would go out to any part of his territory Grossman selected and make the calls.

The territory selected consisted of three small towns—all of less than 8,000 population—near Camden, N. J. The day selected turned out to be rainy and miserable. But they made their calls anyway.

In each town, they parked their car at one end of the one-street business district and moved up one side and down the other. Landmesser did all the talking and Grossman all the listening.

SAME APPROACH USED EACH TIME

Landmesser's approach was always the same. On entering the store, he would look for the person most likely to be the owner. Then he would approach that person with a smile on his face and his hand extended. He would say:

"Good morning. Are you the proprietor of this lovely store?"

Landmesser figured it this way. If the person were the proprietor, he would be flattered at the compliment to his store. If he wasn't, he would be flattered that one would think he was the proprietor.

"It doesn't hurt you to use flattery," Landmesser explained, "and it always makes the person you are talking to feel better and more receptive to what you have to say."

When he knew he was talking to the proprietor, he would introduce himself and ask his second question:

"Are you planning to air condition your store during 1952?"

If the answer was yes, the salesman had a prospect and Landmesser made an appointment for him to come back at a later date and make a full presentation.

If the answer was no, Landmesser would ask if the proprietor could tell him if any of the other businessmen in that town were planning to air condition that year. Generally the proprietor would know and would supply the names.

Landmesser said that he used this approach even on the few stores that were already air conditioned. When the proprietor told him he already had air conditioning, Landmesser would compliment him on his progressive attitude and then ask him if he



knew of others who were planning to air condition their stores. He invariably did.

43 CALLS COMPLETED IN ONLY 2 DAYS

Though the pair made 43 calls in their two-day effort, two interviews in particular illustrated why Landmesser places such a high value on canvassing.

One was a millinery store. Landmesser and Grossman walked in and found only a tenn-age girl behind the counter. She was obviously not the proprietor, and admitted as much when Landmesser asked his first question.

He asked if the proprietor was in.

Yes.

Could I see him?

I don't think so. He's on his way out, was the answer.

At that moment the proprietor came out of the back room and asked who wanted to see him. Landmesser introduced himself.

The proprietor looked at him suspiciously. "Who sent you here?"

Landmesser repeated the distributor's name.

'WHO TOLD YOU I WAS GOING TO BUY AIR CONDITIONING?'

"Who told you I was going to buy air conditioning?"

"Why, you did. Just now."

The proprietor was silent for a minute. Then he said:

"Do you know where I'm going?"

"No."

"I'm going to Camden."

"And what are you going to do in Camden?"

"I'm going to meet my brother."

"And then what are you going to do?"

"We're going to meet my other brother."

"And then what are you going to do?"

"We're going to meet our other brother. And then we're going to the — — dealer and sign a contract for air conditioning for all four of our stores."

Landmesser blinked, but didn't hesitate. "Mister, this is your lucky day!"

It took only a minute for Landmesser to determine that the prospect had not yet entered any negotiations with the other dealer and that the brothers had sold themselves on air conditioning and were now ready to buy.

"Will you hold up your buying decision until next Tuesday," Landmesser asked, "and give Mr. Grossman here a chance to prove to you that you will get more for your money with York air conditioning? If he can't prove it to you to your satisfaction, you can go ahead and sign that contract with our blessing."

"You know," the proprietor said, "you are the first person that has ever set foot in my store to see if I wanted air conditioning. I think you deserve to be heard."

With that, he agreed and arranged an interview when all four of the brothers would be present. To make a long story short, Grossman ended up selling not only this man air conditioning, but all his brothers also.

Shortly after this, Landmesser and Grossman approached a dilapidated, dirty looking store that occupied part of the ground floor of an ancient frame home.

"You're not going in there, are you?" asked Grossman.

Landmesser was ready to pass it by when he remembered he had been preaching to salesmen not to prejudge their prospects, but to call on every door on the street.

So what could he do? "Of course, we're going in there."

'DISREPUTABLE DUMP' PROVES TO BE CUSTOMER

They went into the disreputable looking store and in the dim light made out the equally disreputable looking proprietor behind a counter in the rear.

Landmesser said that he was not sure he wanted to shake hands with this fellow, but he bravely stuck out his hand.

"Are you the proprietor of this— (I couldn't bring myself to say 'lovely' when the place was obviously a dump.)—business establishment?"

The man was.

"Are you planning to air condition your store in 1952?"

"Yes, I am."

That really rocked Landmesser back on his heels. He felt like asking what for and what with. But, when the proprietor explained that he was planning to modernize the entire building, Landmesser arranged an interview for Grossman. This, too, ended in a sale.

Later, he and Grossman called on a millinery shop next door. They discovered that this man not only owned the shop they saw him in, but the millinery shop and about half the property in town. They were also informed that he could write a check for several million dollars and it would be accepted without question anywhere in New Jersey.

With that experience under his belt, Landmesser now states more firmly than ever: "Never pre-judge a prospect. Go and talk to them all."

GENERAL ELECTRIC Tunnel-Type 1/2 Ton Units

Model Css 231BIB Low Temp. For expansion valve—2 cyl.

NEW and in original cartons
PRICE — \$50.00!!

Freight Prepaid on Orders of five or more units

VINCENT REFRIG. & HTG. SUPPLY CO.

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Heat or refrigeration
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4-WAY REVERSING VALVES
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You flip a switch and the 4-WAY VALVE reverses the cycle...
converts the evaporator to a condenser (or vice versa) for heat or refrigeration.

MANY APPLICATIONS:

Heating and air-conditioning of homes and large buildings.
Hot gas defrost in commercial refrigeration installations.
Product temperature control in railcars and trucks.
Tight seating, positive shifting. Made in sizes ranging from 3/4" to 3" connections.
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the frozen food industry

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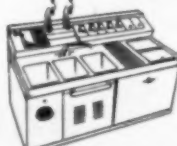
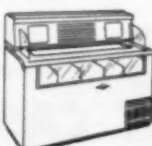
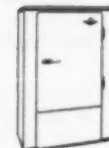
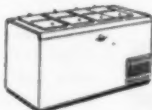
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Executive Sales Office

1457 BROADWAY, N. Y. 18, N. Y.



INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

was a long moment of silence at the other end of the line followed by a giggle as the young lady realized she'd been hooked into an embarrassing position by her own question.

"Which should be a lesson to all of us who must operate much of the time via telephone whether we like it or not. I once stumbled through sheer stupidity into pretending I knew the caller at the other end of the line, answered with great cordiality. His first question made me realize how badly I was thrown. It was simply: 'Have you heard anything about that matter?' Not having any idea what the matter was, I said: 'No.' His next was: 'That's funny. You should have heard by now. I wrote the letter a week ago. Thank the Good Lord I had sense enough to inquire if he had a copy of the letter. He had, read it, and brought back a memory. But if any one almost landed in a self-dug grave of ambiguity, it was this character.'

Columnist Beltair sheds light on the chief reason why "Dope" pleads that all telephoners identify themselves. If your feelings are hurt by this procedure, please glance at this list of a typical afternoon's long-distance calls to "Dope's" phone:

(1) Advertising agency in New York wants to know how many window-unit air conditioners will be sold in August to Alabama home owners whose bedrooms have a northern exposure;

(2) An angry dealer in Winnebunk demands that we do something with the Home Office about that So-and-So Branch Manager he wrote us about last week;

(3) Manufacturer in the Chicago area still is seeking two staff executives and five field men; and who's answered his blind ads?;

(4) Chairman of an industry committee wonders if we've heard from That Fellow in another association about The important Matter yet;

(5) Advertising agency in Chicago frantically implores that we change two words in plate shipped last night . . . or was it Wednesday night . . . "check up, won't you? . . . we're in a tizzy here . . ." (Question is: whose plate!);

(6) Dealer in Illiopolis, badgered by field men, wants "low-down" on manufacturer B's chances of survival.

(7) Chairman of the Board Calling: "I say, old fellow, what's this I hear about General Products buying Wedget Corp?"

When you pick up the receiver . . . don't know who's on the other end of the line . . . and he starts talking a mile-a-minute about something he assumes you've deliberated about for a week . . . well, it's confusing. Especially when the calls cover such a wide range of topics.

That's why, good friends, our switchboard operator asks: "Who's calling, please?"

Give poor, harried "Dope" a chance to adjust his mental filing cabinets, won't you, fellas? Surely it isn't an insult to inquire as to your Position. You should tell it with pride!

Then we can give you better, faster service.

Household Refrigerator Note

That Old Devil term, "Market Saturation," will be heard more and more in the months ahead—as our production machinery continues to roll full tilt, and sales become a little tougher to get. Is there such a thing as a completely saturated market—one in which there is not a single prospect left for a specific type of product?

Discussing this question at the annual convention of the Canadian Association of Broadcasters, Dr. Richard Glenn Gettell, chief economist of Time, Inc., insisted that the term *market saturation* is a misnomer. "It is a product of static thinking. A market is saturated only at a given

moment and at a given price," he added.

Anyone who has faith in our machinery of distribution, and in the power of advertising, will find it not too difficult to agree with Dr. Gettell.

Over and over again in recent years we have heard that this market or that market was saturated, and that future demand would be confined to replacement sales only. Today, we can't think of a single industry where this is true.

Can you?

People who are worrying about "saturation" in *re* household refrigerators, please note.

'Boss Ket' Too Brilliant

Charles F. Kettering, inventor-scientist who is said to be the largest stockholder of the General Motors Corp., was kept off that corporation's Policy Committee because he is such an entertaining talker.

That revelation came from Alfred P. Sloan, Jr., in the du Pont trust-busting trial.

A letter written May 29, 1943, by Sloan to the late Lamot du Pont

(then chairman of E. I. du Pont de Nemours & Co. and a director of GM) suggested that the Policy Committee be enlarged to admit Kettering. Lamot scribbled the word "no" in the margin beside the paragraph in which the suggestion was made.

At the trial Sloan was queried about the letter. He smiled that several directors agreed the inventor of the self starter, and developer of Freon and ethyl gasoline, shouldn't be put on the committee. They feared that Kettering would so enthrall other members with his fascinating talk that "we wouldn't have time to tend to the business of the corporation."

"Through his personality and the interest that he can always develop," Sloan observed, "the meetings might become one of listening rather than one of doing business."

They Wanted a Home Freezer

Mr. and Mrs. Joseph Wiesner of Talleyville, Delaware, decided they needed a freezer for their new home, according to Kinetic's "Tommy" Thompson. They selected one at the Justis appliance store. A salesman

told the Wiesners that he would send a man out to measure the entrance to their basement—to make certain the freezer could be squeezed through the basement portal. (This is a perennial problem, many dealers tell us).

The measurements were taken, and everything appeared to be all set. A truck pulled up the Wiesner home with the freezer. It was unloaded. Yep, you guessed it! The boys couldn't move it through the doorway.

Dealer Justis decided that if a way could be found to get the freezer into the basement, it would be better than losing the sale.

Observing that the floor wasn't hardwood, dealer Justis decided to cut a hole in it large enough for the freezer to pass through. His next problem: how to lower the freezer to the basement.

Hastily borrowed undertaker's equipment provided the answer. Equipment normally employed to lower caskets into a grave was set up, and a few hours later the freezer was installed and operating.

Relax, Communists. You can't beat American ingenuity.

Amana

FOOD FREEZERS

America's most
copied food freezer

outsells, outperforms
all other food freezers!

here's why: Power-packed advertising:

Customers are pre-sold on Amana performance and efficiency by a nationwide advertising program. More prospects, easier sales.

Proved superior by tests: Nationally recognized testing laboratory results proved the Amana Upright best by test, freezes larger quan-

tities of food faster, better, more economically than other leading brands tested.

Dealer profits assured: Your big-volume, wide-margin profits are not cut into by trade-ins, service and installation costs or price-cutting.

Special, starting Thursday, February 19th. Now KATE SMITH sells AMANA FREEZERS on the "KATE SMITH HOUR," NBC Television, Coast-to-Coast every Thursday, 4:15 P.M., E. S. T.

best designed...best engineered

Amana, made famous by a sound combination of practical design with engineering superiority. Nationally advertised... featured on radio and television.

The step-up line of food freezers. Amana's complete range of prices and models, including popular chest styles and "Sharp freeze" uprights gives the Amana dealer a higher average unit sale and higher average unit profit.

AMANA REFRIGERATION, INC., AMANA 16, IOWA
World's largest exclusive manufacturer of food freezers



Guaranteed by
Good Housekeeping

WALL WIRE PRODUCTS COMPANY

A FOREMOST NAME IN THE MANUFACTURE OF DIVERSIFIED WIRE PRODUCTS OF SUPERIOR QUALITY

STANDARD AND LIGHT WEIGHT SHELVES OF ELECTRO-POLISHED SOLID STAINLESS STEEL

REFRIGERATOR SHELVES WITH CHROME PLATE, ZINC PLATE, PRO SEAL, TIN, OR PORCELAIN FINISH

WIRE GRILLES • DISPLAY FIXTURES • GUARDS • BASKETS OF ALL TYPES FOR ALL PURPOSES STEEL STAMPINGS • MISCELLANEOUS FORMED AND WELDED WIRE ASSEMBLIES ARC WELDED ASSEMBLIES

WALL WIRE PRODUCTS CO. PLYMOUTH, MICHIGAN

BACKED BY A CENTURY-OLD TRADITION OF FINE CRAFTSMANSHIP

the only freezer
to receive the famous
Fashion Academy Award

District of Columbia Inspector Fights To Assure Special Wiring for Some Window Conditioners

WASHINGTON, D. C.—Sellers of window air conditioners in the excellent market here may face an added handicap this year—strict compliance with the District of Columbia wiring code which in most cases requires the installation of a separate electrical circuit for such units.

Frank Stetka, chief electrical inspector of the District, is the man charged with enforcing the code, and he has been trying, he says, to enlist the aid of dealers, distributors, and manufacturers.

"All I want is to cut out false advertising and false statements of salesmen," he declares. "Why, I've gone into appliance stores and pretended to want to buy a window unit. I'd tell the salesman that I have an old house and that I'm wondering if the old wiring will take a ½-hp. unit."

"So he usually says to me, 'Why do you think they put a plug on the end of the wire?'"

"The problem here," Stetka believes, "actually started during the war. Nearly everyone thought they had to have an office in Washington and had to have that office air conditioned. Of course, air conditioning didn't cost them anything personally."

There are three main aspects to the problem, in Stetka's opinion. One is a question of terminology; the second is the very practical one of whether the units will operate properly; the third is the question of getting a safe installation.

The first question revolves around the decision as to whether window

air conditioners are "portable, plug-in appliances" or "fixed equipment," Stetka points out.

In both the national wiring code and that in force in the District (which are substantially identical) larger motors are permitted in "portable, plug-in appliances" than in "fixed equipment," he explains. Thus, if window air conditioners are considered in the former category, they would in most cases comply with the letter, at least, of the code.

"I don't consider that these conditioners are 'portable' because actually they're fixed in place in the window," Stetka says. "Yes, a man can lift one, but the fact that they are more or less permanently installed makes them 'fixed equipment' in my interpretation."

As for their being "plug-in" type appliances, Stetka contends that "the plug is merely used for convenience of installation. I don't consider these 'plug-in appliances' in the usual sense of the term. After all, you don't have to install a receptacle for them. You can bring BX directly into the switch of the unit."

In this connection, incidentally, Stetka claims some dealers are getting around the "plug-in" problem by violating the spirit though not the letter of the law.

"Such dealers will get the unit properly installed in the window and then tell the housewife, 'Now plug it in yourself and see if it works.' These dealers claim that the housewife, not themselves, then is the

violation of the local ordinance."

Because no permits are required for the installation of the window unit itself, how does Stetka know that units are going in even though they may violate the District electrical code?

"Inspectors in the field turn up a lot of such air conditioning installations, but mostly," he explains, "we get calls from owners or tenants who are in darkness because a fuse was blown."

This brings up the problems of units operating properly and safely.

Here Stetka has had the full cooperation of the Electric Institute of Washington of which Wm. G. Hills is the managing director. Stetka, incidentally, is on the board of this group.

An Institute bulletin sent out to the trade back in May of 1952 summarizes the situation in detail, and according to Hill, "our [the Institute's] position is still the same as stated in this bulletin."

Text of the bulletin, dated May 5, 1952, is as follows:

"Last year the Electric Institute received a large number of complaints from the Chief Electrical Inspector, D. C. Government, on the overloading of existing 120-volt, 15-ampere branch circuits having lighting and other appliance outlets. These overloads were being caused by motor-operated appliances and other similar types of equipment connected to these branch circuits."

"A special committee representa-



Air Conditioning on Wheels

Easy portability for optional or rental use in hospitals, hotels, or motels, is a built-in feature of the 1953 Carrier room air conditioner. Here a nurse is moving it into position on its wheeled cart. Since the unit can be installed entirely inside the room, she'll simply back it up to the window, snap into place a couple of hinged panels already sized to fit the window's horizontal dimensions, and plug in the unit. A second later it will be creating comfort for the patient.

tive of manufacturers, distributors, retailers, contractors, servicing-installation agencies, the utility and the Electrical Inspection Department of the District of Columbia, met to study ways and means to prevent a similar situation from developing in 1952.

Special Committee

Recommendations

"This committee recommended that a program be developed with a two-fold purpose:

"First, that an informative folder be produced for wide consumer distribution, setting forth in non-technical terms, the reasons why special circuits are recommended for 120-volt motor-operated appliances. (See closing paragraph of this letter)

"Second, that the limitations of a 15-ampere circuit be set forth in a letter to the membership for the guidance of personnel when selling, installing or servicing equipment such as room air conditioners, food freezers, automatic washing machines, and other 120-volt appliances with motor starting current in excess of the circuit capacity."

"It is with the second recommendation of the committee in mind that the following extracts from the D. C. Electrical Code are set forth and analyzed."

"A. Specific Requirements for the branch circuits."

"1. Maximum connected load cannot exceed 80% of the branch circuit rating. (Code reference 2125a).

"Example: 15 amperes \times 80% = 12 amperes—maximum branch circuit loading or 15 amperes \times 120 volt \times 80% = 1,440 watts—maximum branch circuit loading."

"2. Two or more outlets but not to exceed code requirements. (Code reference 2127 and 2128).

"B. Permissible Loads Connected to Branch Circuit."

"1. Motors and appliances may be connected to branch circuit provided they comply with the following requirements:

"a. Portable appliances cannot exceed 12-ampere rating and fixed appliances cannot exceed 7.5 amperes total. No individual overcurrent protection is required for either the portable or fixed appliance, where no other motor load exists."

"b. Portable motors of 6 amperes and not to exceed 12 amperes in rating requires individual motor running overcurrent protection. (Code references 2126 a, 4332 a, c, and 4343 a).

"c. Motors or fixed equipment require a permanently connected wiring system and cannot exceed 7.5 amperes, but if over 6 amperes full load current, individual motor running overcurrent protection is required. (Code reference 2126 a, 4343 a, 4332 b). Also, motors of 6 amperes or less require individual running overcurrent protection if started automatically, as provided in 4322 c or are manually started out of sight of starter location. (Code ref. 4322 b).

"C. Typical Examples:

"1. A.C. motor full load currents are approximately as follows:

Hp	120 Volts
1/8	3.2 amperes
1/4	4.6 amperes
1/2	6.0 amperes
3/4	7.4 amperes
1	10.2 amperes
1 1/2	13.0 amperes

"2. Maximum connected load from paragraph A above is 12 amperes or 1,440 watts."

"3. A 1-hp. motor full load current is 13 amperes. This motor therefore cannot be used."

"4. A 3/4-hp. motor full load current is 10.2 amperes. Only a portable motor of this rating may be used. Twelve amperes minus 10.2 amperes

leaves a balance of 1.8 amperes or 216 watts of additional load that may be connected to circuit."

"5. A 1/2-hp. motor full load current is 7.4 amperes. A portable or fixed motor of this rating may be used. Twelve amperes minus 7.4 amperes leaves a balance of 4.6 amperes or 552 watts of additional load that may be connected to circuit."

"6. A 1/4-hp. motor full load current is approximately 6 amperes. Both portable and fixed motors may be used. Twelve amperes minus 6 amperes leaves a balance of 6 amperes or 720 watts of additional load that may be connected to circuit."

"Enclosed with this letter is the consumer folder 'Don't be a Fuse Changer,' developed by the committee. It tells in simple terms why special circuits are desirable. This folder is available (at no charge) to Institute members as a customer hand-out, a bill enclosure, and for use by industry personnel when discussing installation of appliances which operate by motors the starting current of which may exceed the capacity of the circuit."

"Very truly yours,
Wm. G. Hills,
Managing Director"

Chief message in the folder reads as follows:

"Give yourself uninterrupted electrical service and greater safety."

"There you are, all set to relax and enjoy modern Electrical Living when POP . . . a fuse blows!"

"Even worse . . . somebody may have given you bad advice. You may have used the wrong kind of fuse or someone may have tampered with the fuse box because they were tired of changing fuses."

"The electrical appliances we have today make life fuller, easier, and more comfortable. They're amazing. But the wiring in lots of our homes was never intended to do so much work. If you hang too many clothes on one line it will sag in the mud. If you hang too many appliances on one circuit you're asking for trouble too."

"For air conditioning units, food freezers, dishwashers, garbage disposers, washing machines, dryers . . . we recommend special circuits, if you want to use them safely and without annoying interruptions."

Proper Installation Is Cheap Insurance

"The cost of having a qualified electrician install the extra circuits you need is the best bargain in electrical insurance you've ever bought!"

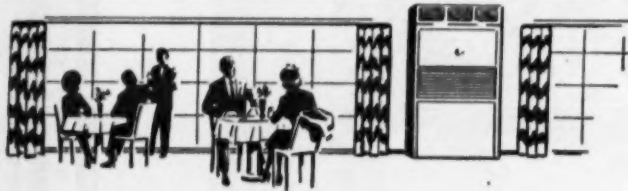
Hills points out that other appliances were mentioned in the consumer folder in addition to the window air conditioners because it didn't seem advisable to single out one as the offender.

"And freezers were included because of the danger of spoiling, say, \$200 worth of frozen food in the event of a fuse blowing due to an overloaded circuit," Hills explained.

In discussing the permissible ampere ratings of motors referred to in the institute bulletin, Stetka also made the assertion that "nameplate ratings on window units are sometimes lower than actual ratings we have checked with our own ammeter."

"This doesn't apply to all makes of units, but it happens often enough to be more than just an accident," he contends. "For example, our tests show that the nameplate rating of one well known make of unit was 8 amps. After running five hours, however, this unit actually was drawing 17 amps. Of course, a unit operating at full capacity under extreme conditions does draw more current."

(Concluded on next page)



THERE'S A "STOUT HEART" IN THIS AIR CONDITIONER

The compressor is often called the "heart" of an air conditioner. And when you sell a Chrysler Airtemp "Packaged" Air Conditioner, your customer is getting a compressor that's unsurpassed. Here are some of the reasons why:

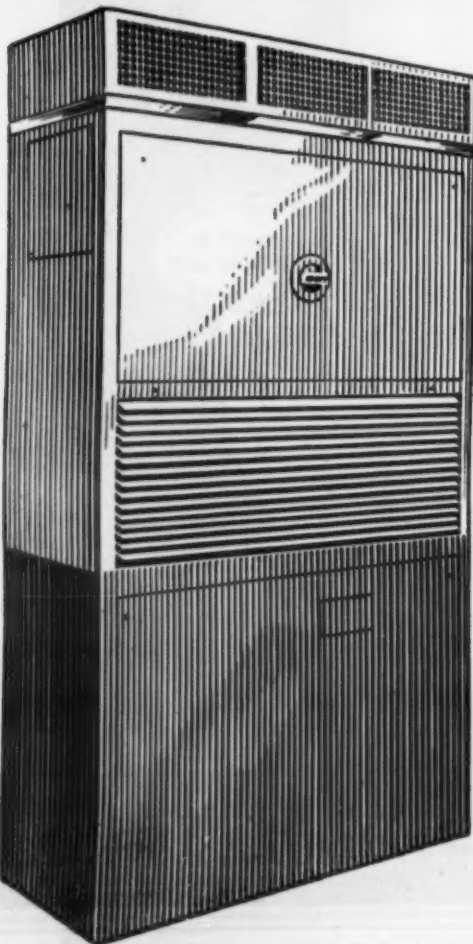
LONG EFFICIENT LIFE

The precise machining and honing of vital moving parts cuts wear way down. Positive pressure lubrication reduces wear, too. The unique suction and discharge valve design gives top, sustained efficiency at high compressor speeds.

QUIET OPERATION

Vibration is reduced to a minimum because the radial compressor design permits perfect balance regardless of the number of cylinders.

Add one more important feature—machined, assembled and tested in a windowless, air conditioned factory, and you can easily see why the word "unsurpassed" in the first paragraph is not an idle claim—it's a fact!



"Packaged" Air Conditioners
Six models from 2 to 15 H.P. capacity. Meets every cooling need.

Comfort
Zone
FOR
PROFIT



Chrysler
Airtemp

HEATING • AIR CONDITIONING for HOMES, BUSINESS, INDUSTRY

Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

Airtemp Division, Chrysler Corporation
P.O. Box 1037, Dayton 1, Ohio

AC&RN-4-53

Please send full details on the Chrysler Airtemp Comfort Zone
"Packaged" Air Conditioning proposition.

Name _____

Address _____ Phone _____

City _____ Zone _____ State _____



Special Wiring for Window Conditioners

(Concluded from preceding page)

"In some a ¾-hp. unit actually drew 16 amps. And you can see by the list given in the institute bulletin that a ¾-hp. a.c. motor normally draws a full load current of approximately 10.2 amps. Another unit we tested had a nameplate rating of 8.8 but actually drew 12 amps."

Stetka says that his department also recognizes the problem of the extra current needed for starting, which falls off when the motor gets up to speed.

"Time-lag fuses, we think, are okay when used on separate motor circuits, but not where other service is provided on the circuit."

As with many similar problems, the rub in this one is economics, i.e., the cost of bringing in a separate circuit for the window unit, or any other appliance with a large motor for that matter.

Apartment Buildings Pose Biggest Problem

"It's worse in apartment buildings because it can be very expensive to bring in new circuits," Stetka admits, "yet the electrical load has increased tremendously in these buildings, where the heavy load is chiefly refrigeration and air conditioning."

"For example, a big apartment house accommodating 400 families which was built here in 1943 originally had an 800-amp. switch. Current consumption in this building grew to the point where recently a 3,000-amp. switch and additional feeder service were installed."

"The apartment buildings which have gone up most recently are being equipped with central type air conditioning systems," Stetka says, "to avoid such problems as this."

As for the cost of installing separate circuits, he points out that the permit fees charged by the District of Columbia are insignificant, compared to the labor involved.

"On the average this would run \$2 for a separate circuit to handle a window unit. For example, 20 receptacles of 1 to 15-amp. capacity can be installed for \$1 while the permit fee for 16 to 30-amp. receptacles starts at \$1 each. Permits for motors of ¼ to ¾ hp. cost \$1 for the first, 50 cents for each additional motor. If a receptacle is installed, however, we don't require a permit fee for the motor. Two branch circuits can be installed for \$1."

According to Stetka, these permit charges are actually less than the cost of inspection "so the department is not cracking down on window units just to bring in more money. We're simply interested in safety."

How One Dealer Meets

Districts Requirements

One air conditioning dealer, at least, in the District, meets with Stetka's full approval because his advertising takes up the problem of providing a separate circuit for window units. In fact, John G. Webster and Sons, Inc., offers, under certain conditions, to install a separate circuit free of charge.

Currently, big space advertisements used by Webster in local daily newspapers here include a large "box" discussing the subject. Copy of such a box in a recent Webster advertisement reads as follows:

"Beware of Air Conditioners that Just 'Plug-In.'"

"The Chief Electrical Inspector for the District of Columbia, in a special bulletin issued by his office, warns against overloading your home electrical circuits. As science and industry devise new appliances for our comfort and convenience, we receive

them eagerly and put them to work in our homes."

"But the wiring in lots of homes is not planned to accommodate so great a power load. You may be using the wrong kind of fuses, or someone may have tampered with the fuse box in order to avoid the convenience of changing fuses. The Chief Electrical Inspector recommends special circuits for heavy-duty appliances such as air conditioners!"

"Therefore, as a special public service in the interest of safety, we will install a special circuit from your meter to your air conditioner free of charge, with the installation of your Chrysler Airtemp air conditioner!"

Actually, this offer of a free special circuit applies only to 1-ton window units, explains George Webster of the firm, which not only sells window units but larger air conditioning as well, in addition to appliances. The firm is also in the electrical and plumbing contracting business.

"We have a larger margin than most firms on this 1-ton unit, so we can afford to install the special cir-

cuit free," Webster said. "This offer covers a circuit as long as 30 ft. Beyond that we charge \$1 a foot."

"In selling units smaller than 1 ton we always recommend the installation of separate circuits, but we charge the customer \$1 a foot for the wiring."

With only one dealer in Washington, according to Stetka, apparently showing any concern about wiring for window units despite last year's combined efforts of the Electric Institute and Stetka's department, what will Stetka try next?

At present he's hoping the Better Business Bureau of Washington, and perhaps the national BBB organization eventually, will take steps to discourage advertising and sale of window units as "plug-in" appliances.

At least, he's made that plea in the following letter to the BBB:

"For the past two years this office has received a great number of complaints from purchasers of window-type air conditioning units. We have investigated all of these complaints and in most cases we found that the seller of the air conditioner did not advise the purchaser that a separate electric circuit for this type of device is usually necessary to assure uninterrupted operation and to protect the



safety of his home.

"In many cases we found that the owner had over-fused his circuit when he found a 15-ampere fuse would not hold. This not only violates Section 2126a of the National Electrical Code, but sets up a safety hazard. This particular section of the Code establishes the maximum load permitted on a 15-ampere circuit with more than one outlet. In this connection, a window-type air conditioning unit has been interpreted to be a fixed piece of equipment and in most cases permitted to be plugged in to facilitate servicing and not because it is portable."

"The Electric Institute of Washington brought this condition to the attention of its members in May 1952, as indicated by the attached bulletin, the thought behind this bulletin being, of course, to acquaint salesmen with the limitations of a 15-ampere cir-

cuit and the importance of advising customers at the time of purchase of this need."

"Many newspaper, radio, and television ads state specifically, or imply, that purchaser can 'just plug in' like a radio, bed lamp, or curling iron. Attached are typical ads from Washington newspapers which support this statement. One merchant, however, is facing the issue squarely by pointing out to his potential customers that if an air conditioning unit is to give good service, a separate circuit will be needed. I refer to John G. Webster and Sons, Inc."

"I personally feel that if the Better Business Bureau could bring to the attention of its members the importance of discontinuing any reference to room air conditioners as plug-in devices, the bureau will do much to assure uninterrupted service and eliminate a safety hazard."

There Is Nothing
So Endearing...
As A Deering

WORLD'S SMALLEST AIR CONDITIONER, YET PACKED WITH MORE CAPACITY PER H. P.

AVAILABLE IN
1/3 - 1/2 & 1 HORSEPOWER
MODELS

DEERING does it AGAIN!

The only room air conditioner to fit all
Steel and Aluminum Casement Windows



IT WILL BE ORCHIDS to you, to make the DEERING your complete room air conditioner line. The only air conditioner that can be installed in just one window opening as small as 10¼" high and 14½" wide. It can be installed in less than 30 minutes by either service man or customer. It requires no special framing, window brackets or wing adapters—no installation kit needed. Just slide-in...hook-in and plug-in. No window mullion and muntins altered, mutilated or destroyed, no drilling, cutting or filing.

Get your franchise TODAY for the only room air conditioner that meets all demands, because...

THERE IS NOT A WINDOW MADE (CASEMENT OR DOUBLE HUNG) THAT THE DEERING WILL NOT FIT.

The **Deering** AIR CONDITIONING CO.
CINCINNATI 2, OHIO

ACT NOW!

PROFIT IN 1953 FROM
A BRAND NEW DIMENSION IN ROOM AIR
CONDITIONING

Yes!

I am interested in a franchise for the DEERING casement window room air conditioner. Please rush me full information.

Name _____
Company _____
Position _____
City _____ Zone _____ State _____

MAIL TODAY TO

THE DEERING AIR CONDITIONING COMPANY
1069 CELESTIAL AVENUE • CINCINNATI 2, OHIO

Complete APPLIANCE WIRING SYSTEMS

CUSTOM ENGINEERED TO REDUCE YOUR ASSEMBLY COST

Streamline production with Riverside wiring harnesses! These neat "packaged units," engineered for accurate, easy installation by unskilled assemblers, make possible the efficient hookup of a single unit installation to your product. We design and manufacture them in any required arrangement, including necessary terminals, relays, limit switches, push-button stations, circuit breakers, junction blocks, etc. Engineering and Experimental departments at your service, without obligation. Call us or send details of your problem for prompt design recommendations and a firm quotation.

RIVERSIDE MANUFACTURING AND ELECTRICAL SUPPLY COMPANY

10233 Michigan Ave., Dearborn, Mich. Tiffney 6-6800
WIRING HARNESSES AND ASSEMBLIES • CORD SETS • HEATER
AND EXTENSION CORDS • SWITCHES • MOLDED RUBBER PRODUCTS

New Promotion Approach Seen Vital To Moving Comfort Cooling Sales Curve Up

What is the outlook for the home air conditioning field for 1953?

An analysis of conditions which made 1952 a banner year and an exposition of some ideas for merchandising that might make 1953 an even better year sales-wise, is set forth here by P. Bernard Nortman, New York economist, who has made a special study of merchandising and promotion practices in the air conditioning field.

Readers of the News will recall Nortman's writings about the air conditioning market last year, which first appeared in the News and then later in other publications, and were widely used and referred to by many in the industry. This analysis should be of special interest to distributors and dealers planning merchandising campaigns, as well as to producers of equipment.

By P. Bernard Nortman

The home air conditioning industry is all set for a banner season in 1953. Last year 341,000 units were sold—a new peak in sales representing a 44% increase over 1951 sales and 346% over the sales volume of five years ago.

So encouraging are these figures that all established companies are expanding their capacity and about 25 new firms have recently mushroomed into the field. A rough estimate has it that total capacity of the industry has expanded to offer twice as many conditioners to the public this year as last.

In all probability, the momentum of last year's boom sales will prove sufficient to push sales to new heights, even if this summer's heat is only

average. Should 1953 have as hot, widespread, and prolonged a summer as in 1952, there is no question that demand for air conditioners will absorb present capacity.

But what if the summer of 1953 is average? Sales will still be high, relatively speaking, but will all stocks be cleared from shelves? That is the risk the air conditioning industry runs and will continue to run until air conditioners are marketed as a utility.

The idea of air conditioning as a utility appliance is gaining ground, but it is still regarded as a luxury. It is not that its price is out of line, but to dislodge the cumulative effect of years of propounding the negative luxury notion or the gimmick ap-

proach of "escape from summer heat" will require a most determined, energetic, and conscious program to promote air conditioning as an essential utility.

So basic a necessity in today's economy is air conditioning that its services can be said to rank with those of the great public utilities—heat, gas, electricity, telephone, running water. Some of its far-sighted leaders foresee the day when its tremendous widespread application will cause it to be operated as a public utility, with meters registering individual usage.

From Nursery to Industry

Its value in the nursery and sick-room, the direct and immediate effect of atmospheric conditions on mental and physical morale and efficiency, the importance of proper conditions of temperature, humidity, and air circulation in industry, in the maintenance of furniture, woodwork, and musical instruments in the home, these and many other health-utility factors have long been known to the experts.

Only slowly is the experts' knowledge being made available for public consumption. By and large, advertising practices still stress the epicurean delights of enjoying cool summer comfort or exploit only gimmicks such as the flexibility of the unit or complete cooling, leaving the public in ignorance or only dimly aware of practical, positive benefits of air conditioning.

It is not enough for the industry to

produce conditioners. It must develop its sales, advertising, and promotional techniques for marketing air conditioners on a mass basis. Contrary to the notion of an executive of a stove company which is expanding into the field of air conditioners, that women will fall all over themselves to buy home units once they see them sticking out of their neighbors' windows, a positive program of practical value must be spelled out to create a mass market.

Even the automobile was first regarded as a curiosity, a novelty, a luxury. Who suspected that it would replace the horse and buggy? Who envisioned a trucking industry to rival the nation's railroads? Today the air conditioning industry is the automobile industry of 40 years ago—production methods and marketing practices confined within the framework of a narrow, high-class limited demand for a product nice to have if you can afford it.

Can't Depend on Heat Waves

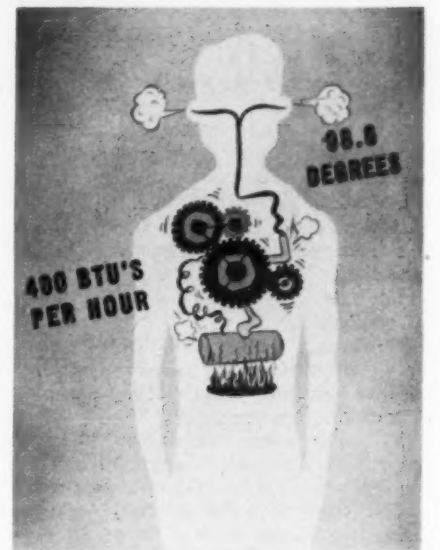
Current sales promotion being what it is, the industry is taking a gamble in its 1953 production because:

1. Last summer was one of the hottest in the recorder history of the U.S. Extreme heat prevailed in all areas east of the Rocky Mountains. It was the hottest June on record in Colorado, Kansas, Missouri, Kentucky, Tennessee, the Carolinas, Georgia, and Florida. It was the second hottest June on record in Illinois, Oklahoma, Arkansas, Louisiana, Minnesota, Alabama, and Virginia.

In New York City, for example, the following records were broken last June: a) the average monthly temperature was highest; b) the highest average daily maximum was attained; c) the warmest consecutive 10 days were experienced; and d) the record for the greatest number of consecutive days of temperature over 80 degrees was broken.

2. Given an average summer, much of the "impulse" to buy conditioners will be weakened.

3. The short sales season and the dealer-distributor relationship are stumbling blocks to more flexibility in moving conditioners from areas of low to high demand. Thus, when summer weather varies considerably in different parts of the country as in the summer of 1951 when it was cool in the north but very hot in the south, the industry is unable to move



THE HEART is a machine that must rid the body of 400 B.t.u. per hour, it is illustrated in this animation from the Mitchell Mfg. Co.'s film, "Health and Your Wealth." In the accompanying article Market Analyst P. Bernard Nortman advises a concentration of promotion on what he terms "the positive health-utility values of air conditioning."

the conditioners into regions where they can be readily sold.

The inherent values of air conditioning are such that normal, not only extreme, summer conditions render it a valid place in our economy. The public is beginning on its own, through experience, to appreciate the benefits of air conditioning. This germinating public acceptance should sell more conditioners in 1953 than in 1952, even if this summer is only average in heat and humidity.

A Program for Promotions

But an average summer may not suffice for the sale of the entire 1953 output—100% more than last year—and many a company may find itself overstocked. To avoid this real possibility, the air conditioning industry must adopt a sound, positive promotion and advertising program incorporating the following:

1. Sales appeals should be based on the positive health-utility values of air conditioning not on the negative luxury appeal. The lift in morale, the boost in vitality, the increased efficiency both in mental and physical endeavors that comes from living and working under

(Concluded on next page)

YOU PAY—

no premium for...

the extra advantages found in

Henry products

or for the extra satisfaction that follows their use

PACKLESS VALVE
With balanced-action

AMMONIA VALVE
Bolted Bonnet—screw or flanged connections. Also with screw bonnet, sizes 1" and under

WING CAP VALVE
Non-ferrous

WING CAP VALVE
Semi-steel—with companion flanges and adapters

HENRY VALVE CO.
CONTROLLING FLOW SINCE 1914

STRAINER
Angle type with patented distortion-proof flange

Y-STRAINER
Brass plated. Welded steel construction with forged brass connections. Size 1/4" O. D. S. through 4 1/2" O. D. S.

BALANCED-ACTION PACKLESS LIQUID LEVEL GAUGES
Valves are backseating—diaphragms may be inspected or replaced without loss of liquid. Conforms with all safety code requirements.

CHECK VALVE
Piston Type For Froon. Sizes 1/2" through 4 1/2" O. D. S.

DRIER
Cartridge type with dispersion tube

EXTRA CAPACITY DRIER
2 cubic inches more than established practice.

DIAPHRAGM RELIEF VALVE
Large capacity—fast positive relief and reseating action. Very small differential between opening and closing pressures.

STRAIGHT-THROUGH RELIEF VALVE
Large capacity—All Brass Construction. Sizes 1/4" M.P.T. through 1" P.F.T.

... Write for these catalogs

No. 100 Packless and packed valves, strainers, driers, ammonia valves, check valves, relief valves, three-way valves, scale traps, liquid gauge sets, flange unions, nut unions and accessories for air conditioning and refrigeration and industrial uses.

No. 70 Drop forged and cold rolled steel fittings.

LAU

maximum quality & performance

V.S. AND C.S. PULLEYS

These new LAUSTEEL Variable and Constant Speed Pulleys are being used in thousands of installations with lasting, uniformly good results. They are built to unvarying standards for maximum efficiency and length of service.

Variable Speed LAUSTEEL Pulleys

Available with 3 standard bores, allowing speed variations up to 30%, assuring noiseless, efficient operation.

Write for Catalog Page 707-13

Constant Speed LAUSTEEL Pulleys

DIMENSION CHART—variable speed pulleys

pulley size	A		pitch dia.		B	C	D	E		material
	outside dia.	min.	max.	std. bore				min.	max.	
VS3	3.25	2.1	2.9	1/2	3/8	3/4	1 1/2	1 1/2	3/4	Steel

*1/2 & 3/4 bores have std. keyway. Variable speed pulley has 3/16 - 18 hollow hd. set screw.

DIMENSION CHART—constant speed pulleys

Pulley Size	A Outside Dia.	Pitch Dia.	B Std. Bore No. Keyway
6"	6 1/16	5.8	3/8 & 1
7"	7 1/16	6.8	3/8 & 1
8"	8 1/16	7.8	3/8 & 1
9"	9 1/16	8.8	3/8 & 1
10"	10 1/16	9.8	3/8 & 1
11"	11	10.65	1 & 1 1/8
12"	12	11.65	1 & 1 1/8
14"	14	13.65	1 & 1 1/8

Pulleys have 3/16 - 18 sq. hd. set screw

LAUSTEEL Constant Speed Pulleys are suitable for both "A" and "O" section belts—available in diameters of 6" to 10" inclusive.

The LAU Blower Company, 2202 Home Ave., Dayton 7, Ohio
World's largest manufacturer of furnace blowers

VALVES • DRIERS • STRAINERS • CONTROL DEVICES and ACCESSORIES FOR REFRIGERATION and AIR CONDITIONING and INDUSTRIAL APPLICATIONS

HENRY VALVE COMPANY

MELROSE PARK, ILLINOIS Chicago Suburb Cable HEVALCO, MELROSE PARK, ILLINOIS

Stocked and Sold by Leading Jobbers

New Promotion Ideas for Comfort Cooling

(Concluded from preceding page) optimum atmospheric conditions, the value in the sickroom, operating room, and nursery and the reduction in the cost of home maintenance and repair that results from elimination of dust and regulation of temperature and humidity are the values to stress.

2. The industry must make use of authoritative medical and engineering knowledge and studies and distill the technical jargon into lay language to acquaint the public with the health-utility benefits of air conditioning. In this connection, it must also teach the public the value of air conditioning in industry, to impress upon the public mind the practical value of air conditioning.

3. The sales season must be spread out by presenting displays, advertisements, articles, etc., on a year-round instead of 6-month basis.

4. Adapt the advertising program to meet local needs. Health problems, air pollution, home structures, and atmospheric conditions vary from region to region. Therefore, canned throw-aways put out by central offices which do not take these differences into account should be avoided.

5. Improve the standards of the industry. Adopt uniform practices regarding warranties, trial periods, installation and service charge. Avoid cut-throat competition in these areas.

6. Recognize the importance of selling the idea of air conditioning. Appliance dealers should not begrudge the installation of the all-year combination air conditioning-heating package into new homes. The more widespread this practice, the greater will be the stimulus to equip existing structures with window units, the market for which has not even been scratched.

7. Develop the basis for trade-in allowances and the sale of used units. If the air conditioning industry is to develop a mass market, it will have to learn to live with this problem.

8. Provide proper instruction on the use of air conditioners. Do not overcool, which results in under-selling.

Within the framework of a market bounded by the demand for a luxury product, the home air conditioning industry is thriving. Its ultimate sales potential, however, lies in all structures: apartment houses, buildings, factories, stores, offices, and private homes.

When a program such as that outlined is successfully adopted, people will not ask themselves if they can afford air conditioning any more than they now question whether they can afford heat. Air conditioning will become part of the accepted way of living.

Worthington To Cool New Aluminum Sheathed Office Bldg. on Park Ave.

NEW YORK CITY—The first aluminum sheathed building to be erected for general business occupancy by an investment builder will be air conditioned throughout by Worthington Corp., the company announced recently.

The 26-story office building, known as the 99 Park Ave. Bldg., is now in the early stages of construction.

The heart of the air conditioning system will be two Worthington 665-ton centrifugal refrigeration machines and auxiliaries to supply chilled water to the Worthington air conditioning units for temperature control of all the interior zones.

They will also supply chilled water for a number of small fan units located in the peripheral zone. These centrifugal compressors will be driven by Worthington steam turbines through available steam furnished by the New York Steam Co.

Designed by Emery Roth & Sons, with W. R. Cosentini & Associates as engineers, the 99 Park Ave. Bldg. will contain approximately 403,500 sq. ft. of net rentable office space above the first floor and will provide nine different full floor sizes ranging from 22,500 sq. ft. on the lower floors to 6,550 sq. ft. in the tower. The air conditioning contractor is Ralsler Corp. here.

Initial occupancy of the building is scheduled for November, 1953.

Mitchell Mfg. Offers Non-Commercial Movie Dramatizing Health

CHICAGO — "Heat attack equals heart attack" is the dramatic message of a fast-moving, non-commercial movie now available to schools, libraries, and community organizations through distributors and dealers of Mitchell Mfg. Co. here.

The health story is incorporated in "Health and Your Wealth," the 1953 addition to the film library of Mitchell. It is based on facts authenticated by the Mitchell Air Conditioning Research Foundation in special experiments at Michael Reese hospital, Chicago.

"Used together with other film material, the health story is an outstanding audio-visual training aid offering a hard-hitting sales pitch at dealer and distributor meetings throughout the country," the company said.

"Shown alone, through local requests, it is an effective institutional film, a means by which the layman can learn how heat affects his heart. Mention of the company is restricted to a photo of the Mitchell unit and Mitchell Foundation credit line."

"Health and Your Wealth" is the tale of R. J. Pemberton, a business executive who ignores the thermometer on a sweltering summer day and lands in a hospital bed.

The movie opens on a scene of Pemberton, hot and uncomfortable in his skyscraper office, and then switches to a hippopotamus, emerged in a cool pond. The narrator reminds the audience that, despite his thick



THE BUSINESS EXECUTIVE who wouldn't stop working despite rising temperatures, lands in a hospital bed with a heart attack in this scene from the Mitchell's 1953 sales training film, "Health and Your Wealth."

skull, the hippo knows more than the successful businessman when it comes to combating the heat.

In sharp contrast to the comfortable hippo, Pemberton, who avoids exercise on doctor's orders, continues dictating a speech in the heat until his vision blurs and he blacks out.

Next, the camera focuses on Pemberton, a weak and feverish hospital patient. The case is analyzed in the doctor's words written across the chart at the foot of his bed: "Heat attack equals heart attack."

A more scientific description of the case is given by the doctor, who takes over the story to explain the case of Pemberton's collapse with a series of cartoons and charts.

The doctor explains that the human body is a heat machine that must throw off 400 B.t.u. of heat a day. He reveals that normal means of eliminating body heat—contact with a cool surface, breathing and perspiration—are effective when the temperature is below 75°.

When the thermometer reaches the

80's and 90's, the doctor says, the heart takes over the cooling job by pumping as much as ten times harder than it does normally, to help the body get rid of its manufactured heat, a process that goes on during every month of a hot summer.

Then, through more animation and flashbacks to Pemberton, the narrator points out other systems of heat attack—cloudy thinking, appetite lag, laziness, discomfort, and fatigue.

The health story closes with an animation of a heart functioning normally in an air conditioned room, and a photo of the Mitchell booklet, "Heat and Your Wealth," based on the same facts used in the film. The booklet is available at stores carrying the Mitchell line.

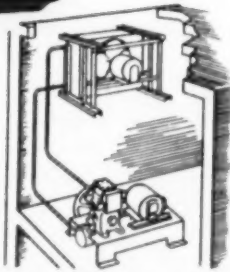
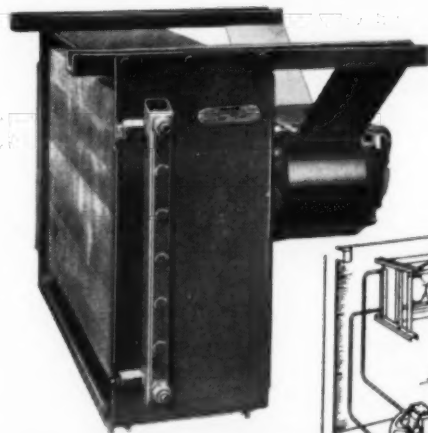
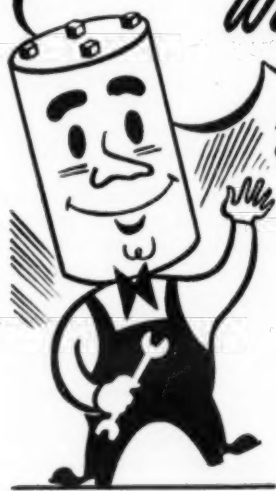
Translating the health story into a sales argument, E. A. Tracey, vice president in charge of the Air Conditioning div., predicts that this is the selling story that will have the most important impact on the consumer—proving the room air conditioner is a necessity, not a luxury.

Save Water

with

heat-x

AIR-AND-WATER COOLED COMBINATION CONDENSERS, FOR REMOTE INSTALLATION.



Quickly pays for itself in water saving. Water consumption on year 'round basis approximately 5% of water cooled condenser usage.

Flexible installation. Can be mounted in any location, indoors or outdoors.

Full water cooled capacity. Compressor can operate at full water cooled speed.

Request free descriptive bulletin.

Low operating cost. Operates only when compressor is running.

Low maintenance cost . . . no accessory equipment, no open water system, no chemical concentrations in water.

Cleanable water tubes.

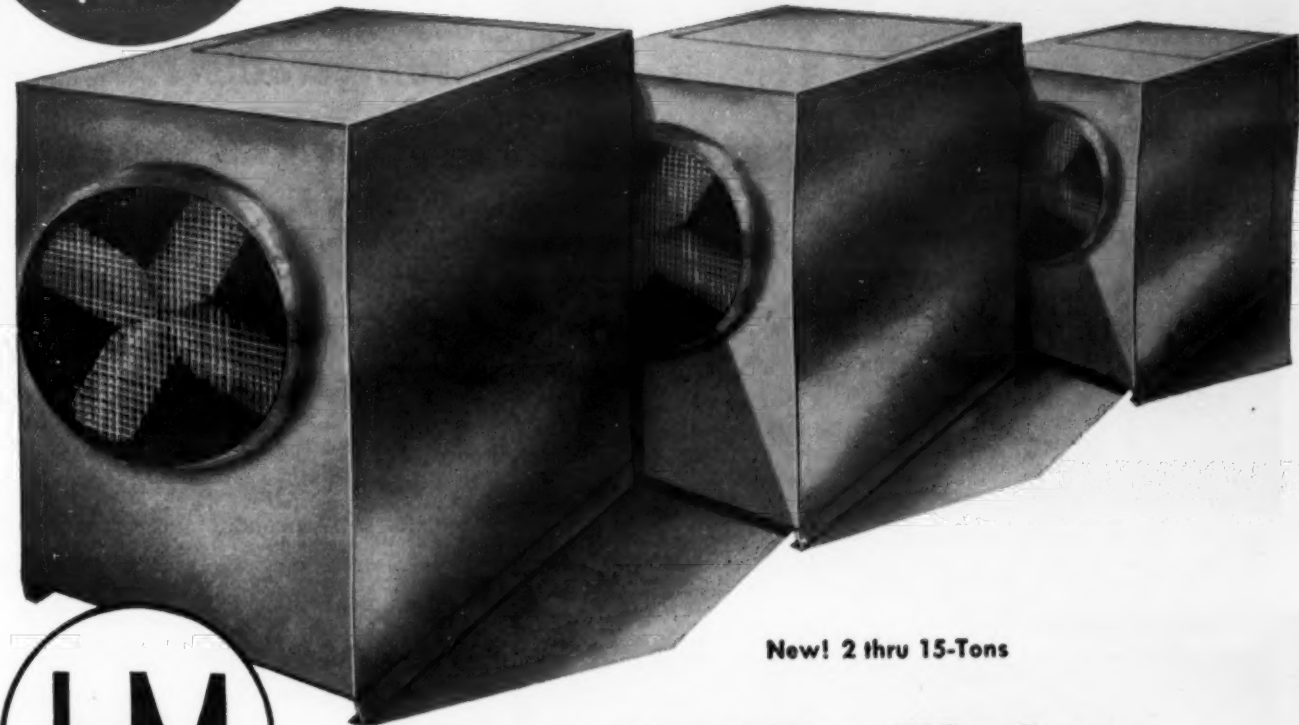
No breakdown losses. Can operate on either air or water in emergency.

THE HEAT-X-CHANGER CO., Inc.
BREWSTER - NEW YORK

ANOTHER
HALSTEAD &
MITCHELL
FIRST

20-Year Guarantee!

ON THE WETTED DECK SURFACE



New! 2 thru 15-Tons

HM

RESIDENTIAL COOLING TOWERS

PRICED FOR THE HOME MARKET

Price-wise these Halstead & Mitchell Residential Cooling Towers throw open huge segments of the home and small building market to air-conditioning. Here is the development for which the industry has been waiting. Check prices today!

NOW REQUIRED IN MANY AREAS

Residential Cooling Towers recirculate precious water . . . meet requirements of municipalities which prohibit wasting cooling water to sewers. And low cost H&M units take residential air conditioning to the suburbs and rural area . . . recirculate from a cistern if need be!

MADE FOR REAL OPERATING ECONOMY

Economical, lastworthy . . . low operating cost matches low initial cost. Efficient gravity-type distributing pan eliminates windage loss since atomizing by spray nozzle is unnecessary. Low pump head pressure is another bonus of gravity distribution. And maintenance is a snap!

FAMOUS HALSTEAD & MITCHELL QUALITY

Here's all the quality for which Halstead & Mitchell Cooling Towers are world famous — including the 20-year Guarantee on the wetted deck surface of pressure-treated creosoted wood, against attack by rotting or fungi growth. Stainless steel fans and shafts, plus individual cabinet coatings of Vinsynite, Vinyl Zinc and chlorinated rubber add important years of life. The complete assembly is with Everdur bolts . . . disassembly is easy even after years of service.

AT LEADING WHOLESALERS EVERYWHERE

Write for descriptive bulletin from Halstead & Mitchell, one of the world's largest manufacturers of water-cooled Cleanable Condensers, and Cooling Towers up through 100-tons.

HM

Halstead & Mitchell

OFFICES: BESSEMER BUILDING • PITTSBURGH 22, PA.

FHA & Residential Air Conditioning

Home Cooling Systems Are Just as Eligible for Title 1 Loans
As Heating Plants, FHA Attorney Tells Trade Group

WASHINGTON, D. C.—Residential air conditioning units, like heating plants, are eligible for FHA Title 1 loans, according to Warren E. Cox, attorney in the Legal Division, Federal Housing Administration.

"Residential cooling units installed next to a central heating plant are just as eligible for these loans as the heating plant," Cox told the Refrigeration Trade Association at its recent convention here.

This also applies to residential cooling systems of the indirect type where chilled water is circulated to convectors, he said.

"Window type units, however, are definitely out as far as Title 1 loans are concerned, as are package units for commercial applications," he added. "Package units used for residential air conditioning, though, are okay for Title 1 loans."

In discussing the problem, Cox pointed out that FHA doesn't make loans itself, but merely insures financial institutions against losses.

"We are now limited essentially to insuring loans for home improvement. Losses on commercial loans as a rule run more than twice as great as residential loans."

The statement by Cox that package units for commercial applications were not eligible for Title 1 loans was disputed by one contractor present, who said he had obtained such loans.

"Banks may make such loans if they wish, and we probably won't hear about it unless there's a claim on a bad debt," Cox explained.

"But if you get such a claim on a commercial installation loan, what happens?"

"We inform the bank that such loans aren't insurable by us and refund the insurance premium," he replied.

"In most commercial businesses, the operators are tenants of the building who own their trade fixtures. These fixtures go with the business. This has led us to the conclusion that package units in commercial buildings can't be financed under Title 1."

"At one time," Cox said, "we adopted the test of duct work as deciding whether the units were eligible. But this wasn't too good because often ducts were shown in the plans that weren't really necessary."

He cited the instance of plans for air conditioning a small jewelry store with a package unit and an elaborate duct system. A check of the plans, however, revealed that the store was only 10 by 19 ft. in size, so obviously the ducts weren't needed, he said.

"I've also seen a lot of material published which points out that these package units can be taken out when you move, but manufacturers and contractors tell us, No, you can't move them."

Cox then reviewed for contractors the steps necessary to obtain a Title 1 loan.

First step, he explained, is to compute total cost of the job to be done, and then to prepare a written proposal for the customer. By using the FHA "Gross Charge and Discount Table," the contractor can tell the customer the amount and number of his payment.

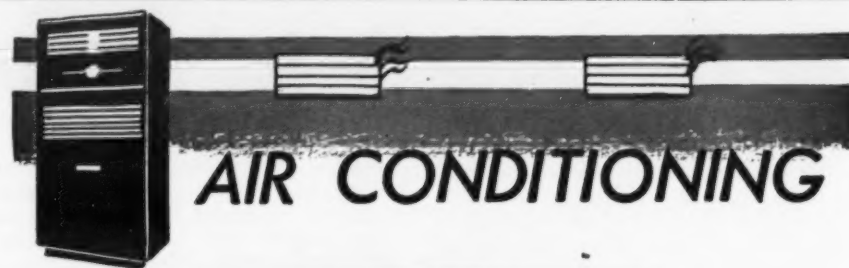
If this proposal is satisfactory to the customer, he should sign a contract or sales agreement in triplicate (one each for contractor, customer, and lending institution) and then fill out the FHA credit application form.

The contractor should then submit the credit application with a copy of the contract to the lending institution. If the latter okays the credit and tells the contractor it will make the loan, the contractor should then make the installation.

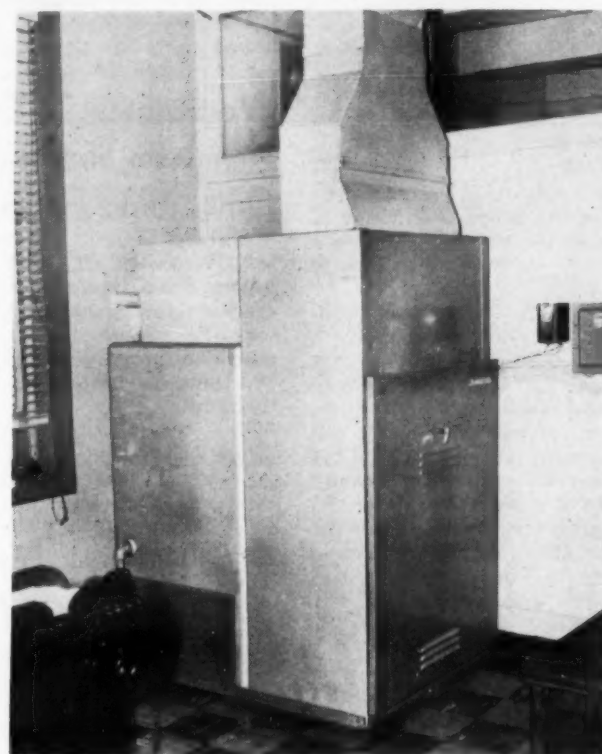
After the work is completed to the customer's satisfaction, he and the contractor sign a completion certificate and a cash down payment certificate which the contractor presents to the lending institution and receives the loan.

Contractors were cautioned by Cox that banks may still ask for recourse even though FHA does not require it.

"The dealer therefore shouldn't endorse an FHA Title 1 loan with the recourse provision," he declared.



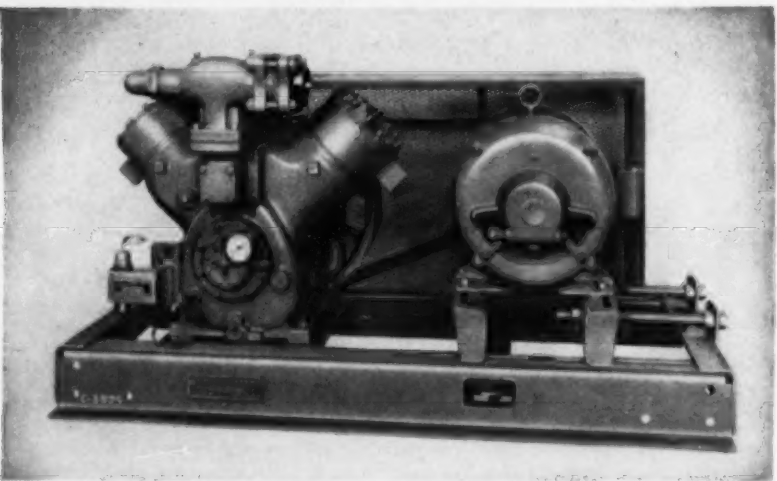
Dealers Find Commercial Market for Year-Round 'Residential Type' System



TYPHOON YEAR-ROUND AIR CONDITIONER above is one of two that were installed in the Gratale Warehouse in Jersey City. Cost of the two units was said to be only \$1,500 more than the quoted figure for a steam heat installation.



HANDSOME WORTHINGTON PACKAGED AIR CONDITIONERS are available in a complete size range from 3 to 15 hp for installation in homes, offices, restaurants and stores. (Package units for remote installation are also available in 15, 20 and 25 hp sizes.)



WORTHINGTON'S NEW "J" FREON COMPRESSOR, designed to run at optimum speed, combines all the advantages of high and low speed machines. Electric unloading, improved internal manifold and a new force-feed lubrication system are just three of the many advancements in functional design incorporated in the "J" compressor.

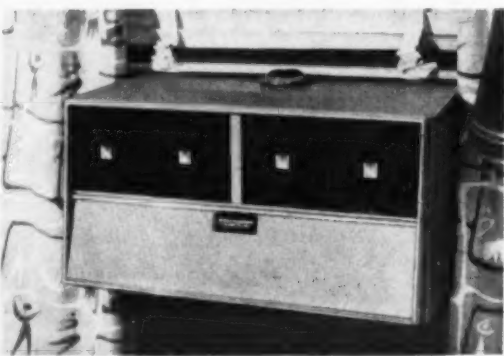
Why is Worthington the fastest-growing name in air conditioning and refrigeration?

That's easy! The big reason is that no other manufacturer makes so complete a line. From giant refrigeration systems down to the air-conditioned corner drugstore—Worthington can handle any job, with exactly the right equipment. This complete unit responsibility pays off in more satisfied customers.

And Worthington distributors know that their customers get the benefit of over half a century of air conditioning and refrigeration experience in every piece of Worthington equipment.

Worthington Corporation, Air Conditioning and Refrigeration Division, Harrison, New Jersey.

A.3.9



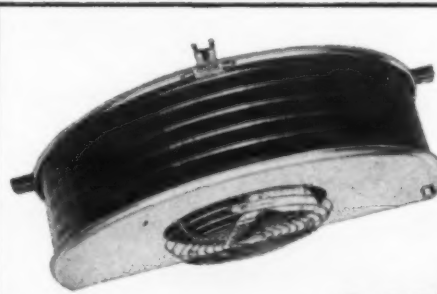
THE NEW WORTHINGTON WINDOW AIR-CONDITIONER is the talk of the industry. Acclaimed by leading interior decorators, this beautiful unit is the ultimate in home air-conditioning. And for use with any type of central heating system, Worthington residential air conditioning is available in sizes of 3 and 5 hp.

The Best Franchise . . . The Most Complete Line

WORTHINGTON



Air Conditioning and Refrigeration



Lowest BTU cost.

It saves space and assures uniform temperatures.

In six sizes, 3,500 BTU's to 20,000 BTU's per hour

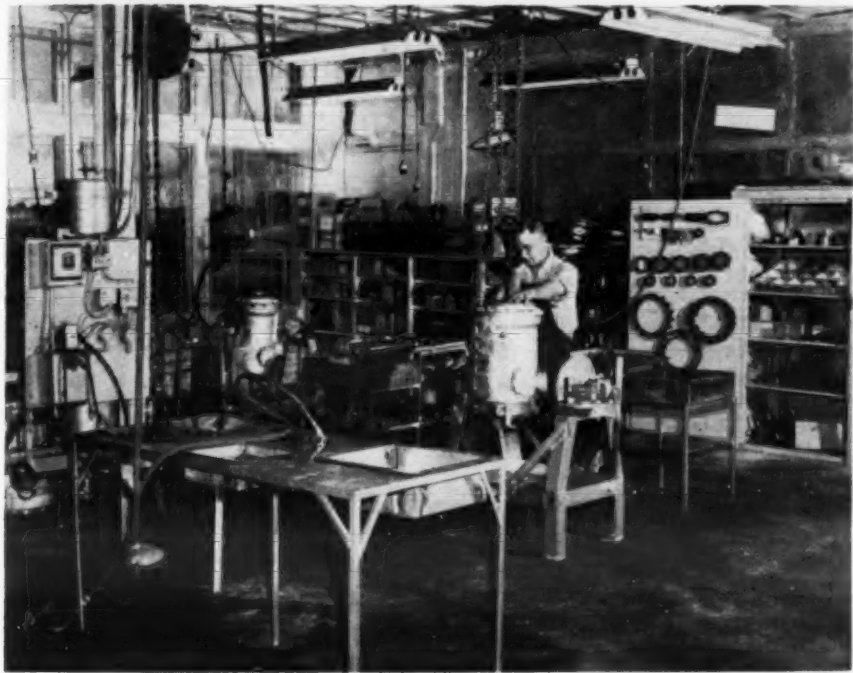
LARGE
CURVETTE

by **KRAMER**

Write for Bulletin C-192

KRAMER TRENTON CO. • Trenton 5, N.J.

AIR CONDITIONING



COMPRESSOR REPAIR SHOP occupies 2,000 sq. ft. Rebuilds only Airtemp units which Air Temperature, Inc. sells.

Sound Service, Satisfied Customers Are Basis for Dealer's Phenomenal Success

MEMPHIS—From a \$200,000 sales gross in 1948 to "well up in seven figures" for 1952 describes the phenomenal five year-growth of Air Temperature, Inc., Memphis Chrysler Airtemp dealer.

Organized as a new company in 1948 with six employees, the firm obtained an Airtemp dealer franchise to handle industrial, commercial, and residential cooling and heating equipment. By the end of the first year of operation, 35 persons were on the payroll.

100 YEAR-ROUND EMPLOYEES

Today Air Temperature employs more than 100 people the year-round. The property includes a 16,000 sq. ft. plant, one quarter of which is the sheet metal shop. A complete Chrysler Airtemp compressor repair and rebuilding shop occupies 2,000 sq. ft. A total of 26 trucks makes up the Air Temperature fleet. Thirteen are used for service work, the remainder for construction jobs.

How did Air Temperature grow so big so fast in a relatively new

industry?

The basic principle of Air Temperature's operation was laid down by vice president and general manager Bill Drake.

"Air Temperature has been founded on the basis of making every customer a satisfied one."

The company believes firmly that the air conditioning industry should be built on a sound service basis. In line with this policy, Air Temperature services none but Chrysler Airtemp equipment. Service records show that 12 hours has been the maximum delay for customer service. Drake emphasizes that "even in the busiest part of the season, we have never had a Chrysler installation out of service more than 24 hours."

150 SERVICE ACCOUNTS ON THE BOOKS

Some 150 service accounts—essentially they are preventive maintenance contracts—are in force at Air Temperature. The accounts keep the service department on a balanced schedule and materially reduce delays

during periods of peak service demands. Also, the balanced schedule keeps a full complement of service personnel at work the year-round.

The metal shop is arranged to provide a straight in-and-out production line. Latest equipment and tools are provided in the compressor rebuilding shop. In the warehouse and shops, power equipment is extensively used to handle materials. A complete stock of spare parts is at hand at all times. Service trucks are considered shops on wheels, and are well-equipped with parts and tools.

A blanket advertising and promotional program keeps the name Air Temperature before the public constantly. The advertising budget approximates \$15,000 annually. Newspapers, billboards, radio, and television are the principal media. Specialty-type advertising is also included in the program.

Aggressive, trained salesmen—who have worked two to six months in the shop and with other salesmen—stress to prospects that purchasers should buy from an air conditioning contractor.

Sales contacts are made off the floor. An intensive effort is made to sell the company and its service along with the product.

Photographic kits of installations and a pages-long list of satisfied customers are an essential part of the Air Temperature salesman's material.

"More often than not, the list contains the name, address, and telephone number of a friend or acquaintance of the prospect," Drake says. "Many sales have been clinched by a prospect's telephone call after the salesman has left the office."



SHEET METAL SHOP covers a quarter of the plant space. In-and-out system makes it possible to keep units out of service for only short periods.

EVERY EMPLOYEE IS A 'SALESMAN'

Officially there are five salesmen on the company's payroll. Unofficially, though, every employee is on the sales force headed by the firm's officers. The official salesmen are paid on a salary-bonus arrangement.

Periodic sales and service meetings with the manufacturer introduce new techniques which are promptly tailored to fit the Air Temperature program.

Although a complete line of equipment is on display, little "on-the-floor" merchandising is evident, except in the room cooler line. The

larger equipment is available for inspection by prospects who have been contacted outside.

Room cooler sales are handled by full and part-time salespeople. This program is aided by blanket advertising through all approved local media.

Air Temperature's experience has shown that schoolteachers, working while on summer vacations, are excellent salespeople and have a wide circle of contacts.

The company's officers are: William A. Loewenburg, president; W. L. Drake, vice president and general manager; J. Harvey Pierce, vice president in charge of sales; and Frank Pierce, secretary and treasurer.

Air
Conditioned
BY
Clime-matic^{*}
***FINEST IN AIR-CONDITIONING**

Air conditioning volume is about to break out in a blaze of sales. It's been a long time building and, coincidentally, so have we. From its very inception the United Clime-matic Air Conditioning Units have been engineered, designed and developed by air conditioning people with an awareness of the needs of the industry . . .

that's why Clime-matics cool faster and deliver more per horsepower rating than any other unit!

Clime-matics have never been sold in such volume and never will be, as to preclude individually engineered specifications . . .

that's why Clime-matic users swear by and insist on "Clime-matic only" when reordering.

Clime-matic distributors are chosen with discrimination and franchised for protection . . .

that's why Clime-matic dealers sell profitably with a personal guarantee of satisfaction . . . all-ways!

You'll find Clime-matic for '53 better than ever with features embodying field-tested suggestions from Clime-matic users and dealers as well as UNITED's laboratory engineers—just one more reason why Clime-matic is the "air conditioning man's air-conditioner".

UNITED CONDITIONING CORPORATION

Executive Offices & Plant: CROTON FALLS, N. Y.
NEW YORK SALES OFFICE: 457 WEST 40th ST., NEW YORK CITY



Clime-matic WINDOW UNITS
Available in 15 and 16 H.P. Economically
finishes windows in any standard window



(SC-550 illustrated)

NEW FOR '53

5 YR. WARRANTY

*** TESTED & GUARANTEED
CAPACITY RATINGS**

United Conditioning Corporation

Croton Falls, N. Y.

Send us full details on Clime-matic and the name of the nearest Clime-matic distributor.

Name

Street

City

State



"JOB TAILORED" means money saved

• Your cold plate dollar goes further when you specify DEAN because you eliminate waste! You get a plate in the *exact* size you need . . . not one that is almost right, but a plate that accurately meets your specifications. You name the size—you name the shape . . . we make it!

You can have plates in zinc metalized steel, stainless steel and in other metals. You can get cylinders, U's, angles, tanks, etc., and also plates for baudelot-type coolers.

Using DEAN "job tailored" cold plates means dollars in your pocket on every job. Try them!

SEND FOR TECHNICAL DATA BOOK

Get the details on DEAN Cold Plates for ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, frosted food refrigerators, window displays, food counters, refrigerated transportation and subzero applications for industrial chilling.



**DEAN
COLD PLATES**

ANY SIZE
ANY SHAPE
MOST METALS

DEAN PRODUCTS, INCORPORATED
1042 DEAN ST., BROOKLYN 16, N. Y.
Sterling 9-5400

They'll Do It Every Time By Jimmy Hatlo



Have You READ 'Peace and Progress' Yet?

only MITCHELL

THE WORLD'S FINEST ROOM AIR CONDITIONER!

Cools and Heats too with the NEW Weather-Dial!

MORE comfort features!
MORE to tell! -STILL easier to sell!

A ROOM AIR CONDITIONER THAT
DOESN'T BOTH *Cool* AND *Heat* IS OBSOLETE!

PLUS all these easy to sell features:

NIGHT-COOL

Moderate cooling for just warm days and nights.

VENTILATES

Brings fresh air into room in any season... Dyna-cooled in summer or Dyna-hot in winter.

ARID-DRYER

Converts unit to a powerful dehumidifier for humid, muggy days.

FILTERS

Removes 99% of dirt, dust and pollen from air.

COOL AND EXHAUST

Converts unit to giant exhaust fan while cooling room at the same time.

SOUND MUFFLER

Permits lowest operating sound level of any unit on the market.

MITCHELL MFG. CO., DEPT. AC-10
2525 Clybourn Ave., Chicago 14, Illinois

Gentlemen: Rush me full details on how I may become franchised to sell the new Mitchell Room Air Conditioner. . . . Tell me more about how you Weather-Dial COOL for matchless summer comfort and HEAT for extra winter warmth.

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Store Name _____
Address _____
City _____ Zone _____ State _____

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Est. 1926



AIR CONDITIONING AND REFRIGERATION News

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

No Question About It: Air Conditioning Has Captured Public Attention

(Concluded from Page 1)

palaver by Beautiful Dreamers. Especially by pundits who moved in yesterday or the morning after last Saturday night.

Frankly, we are delighted at all this attention air conditioning is getting (even more than we are appalled at times). And we do feel that out of all the helter-skelter welter of this publicity considerable good will come.

For more than two decades AIR CONDITIONING & REFRIGERATION NEWS has been reporting, examining, tut-tutting, prodding, omigodding, but always promoting the air conditioning idea and industry.

The money we've spent on doing this editorial job probably amounts to 20 times the support we've received in air conditioning advertising—so far.

However, we aren't complaining. Our experienced editorial staff undoubtedly is tops in the field. It has had plenty of time to season. And our position as Information Headquarters for the Air Conditioning Industry is solidified and accepted.

The judgment of our editors is deemed to be authentic and trustworthy everywhere and by everybody. Thus it would seem that our investment, our faith in air conditioning, should pay off eventually, if not sooner.

Moreover, we are mighty happy that other publications suddenly have discovered air conditioning. Anything they say about it, whether off the beam or not, will help stir up interest. As Henry Ford once put it: "I don't care what they say about me as long as they say 'Ford'."

Pioneering manufacturers of air conditioning equipment who, like the NEWS, have taken the early grief—and doggedly absorbed the losses attendant on building a new industry—also should be pleased at the sudden influx of new competitors. Many of them will muddy the waters for awhile. Some will perish. But a few sturdy firms will help advance the industry.

It all adds up to accelerated public acceptance. Thus: faster growth on the part of air conditioning experts.

The latter, incidentally, already are faithful subscribers to (or advertisers in) AIR CONDITIONING & REFRIGERATION NEWS. No doubt it can be assumed that they "know the score," and will cash in on enlarged opportunities.

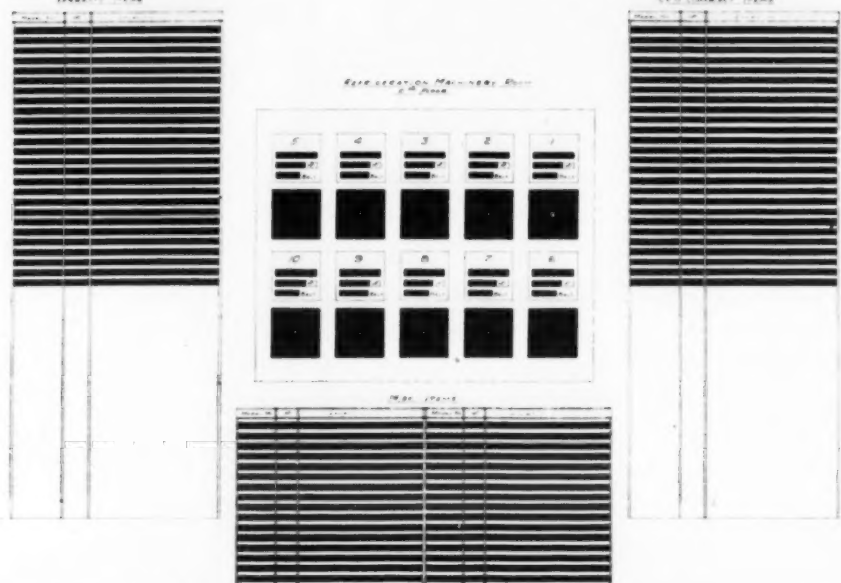
A lot of newcomers to the fields of selling and installing air conditioning undoubtedly will lose their shirts. Especially locally! As for those who know what it's all about . . . well, many of them already are figuring that maybe they can trade for a new Cadillac sooner than they'd expected.

The men who now know how to sell, install, and service air conditioning have learned lessons which impetuous rivals must bump up against in the scrambling months ahead. Some of the latter, of course, will learn fast. Others will drop by the wayside. And good riddance.

Those who survive should make real good money for a long time to come, and enjoy the feeling of participating in a great public-benefit endeavor.

We are witnessing the beginning of air conditioning's "century of progress."

Service & Supplies



THIS BLUEPRINT CHART posted on the wall of the customer's machinery room is proving a boon to Frost-Air Co., Inc. servicemen. It tells them at a glance what equipment is in warranty (upper left), what is under service contract (upper right), data on each compressor and the equipment to which it is hooked up (center), and the self-contained equipment installed at that location (bottom).

Blueprint Chart Helps Servicemen Keep Check on All Equipment of Each Customer

INDIANAPOLIS — Providing good inspection service on the equipment he sells right from the beginning is a potent source of new business for William E. Spridgeon, general manager of Frost-Air Co., Inc. here.

When Frost-Air, which is the York air conditioning and refrigeration equipment distributor here, sells a job, it includes in the initial price the cost of a year's inspection service. Then, without any prompting from the customer, Frost-Air servicemen make regular inspections of the equipment to see that it is operating properly.

This policy, applied in one instance on the original sale of a 3-ton air conditioning unit, so pleased the customer that he later placed \$50,000 worth of business with Frost-Air over a period of years, Spridgeon asserted.

Under Spridgeon's system, refrigeration equipment is checked six times during the year, automatic ice makers 12 times, and air conditioning equipment three times.

These calls not only lead to future equipment sales, Spridgeon declares, but they produce more immediate results. At the end of the year, they make it easy for Frost-Air to sell the customer a service and maintenance contract. These contracts now form a good share of Frost-Air's over-all

business and enable the firm to keep men employed the year-round.

To assure that no customer is missed, the dates for regular maintenance calls are posted on a card. These cards are filed and each Monday the office girl makes out a list of the calls to be made that week. These are then assigned to individual servicemen.

Another device helpful to his servicemen is a blueprint chart giving all pertinent information about equipment installed at one location. One copy is posted on the customer's premises and the other is kept in Frost-Air's files.

On the chart are listed the equipment under warranty, the equipment under service and maintenance contract, and other miscellaneous equipment. Compressors are listed by number, make, horsepower, and belt number. In a box immediately below the listing of each compressor is given the equipment it serves and the location of that equipment.

"When a customer has service trouble," Spridgeon explains, "he can consult his chart and tell us on the initial call which compressor is giving trouble and all the pertinent data about it. The chart is also useful to the serviceman on the job, who finds it a simple matter to trace refrigeration lines when he knows im-

mediately what equipment is being served by what compressor and where it is located."

Believing that using the user is the best means of getting leads for new business, Spridgeon concentrates on providing customers with good service and does not spend much on the usual forms of advertising. Most of his outside advertising is confined to direct mail.

As Spridgeon explains: "We did a good job of air conditioning one theater here in town. Word got around among theater owners and we received lots of calls from them after they were favorably impressed with our work in that one theater. This led to additional business."

Johnson Is So. Calif. Sales Manager for Gen. Controls

GLENDALE, Calif. — Appointment of Robert M. Johnson as Southern California sales manager for General Controls Co. has been announced by J. F. Ray, vice president in charge of sales.



R. M. Johnson

Johnson, a U.C.L.A. graduate, has more than 15 years' experience in the heating, ventilating, and air conditioning fields. He comes to General Controls from Payne Furnace Div. of Affiliated Gas Equipment, Inc.

As head of one of the largest of General Controls' 34 regional offices, Johnson will supervise manufacturer, dealer, and other customer relations.

Kaylo Insulation To Be Sold on National Basis

TOLEDO — Owens-Corning Fiberglas Corp. has announced that it will sell Kaylo heat insulating products on a national basis. Kaylo insulation, made of a hydrous calcium silicate, is used principally in the high temperature range encountered in the power, refining, and chemical industries.

John M. Briley, vice president of Owens-Corning, and general manager of its General Products Div., stated that "With the addition of Kaylo, we can now offer to the trade a complete line of incombustible insulations. Fiberglass contractors and distributors now can buy from one source incombustible rigid and flexible duct lining and insulation, incombustible rigid and flexible pipe covering for all temperatures, incombustible high and low temperature block, incombustible cold storage insulations, and related incombustible products."

Booklet Tells of Niagara Air Conditioning Job

BUFFALO — An eight-page booklet describing and illustrating the installation of a Niagara Blower Co. air conditioning system using the company's liquid absorbent "Hygrol" to remove moisture from the air has been issued by the company.

The installation is in the Arkansas Power & Light general office building in Little Rock. In addition to numerous pictures of the installation, a schematic diagram is also included. The booklet has been designated Bulletin No. 121.

AIR CONDITIONING UNIT

DEVELOPMENT

HENRY L. GALSON
CONSULTING ENGINEER
211 E. FAYETTE ST.
SYRACUSE 2, N. Y.

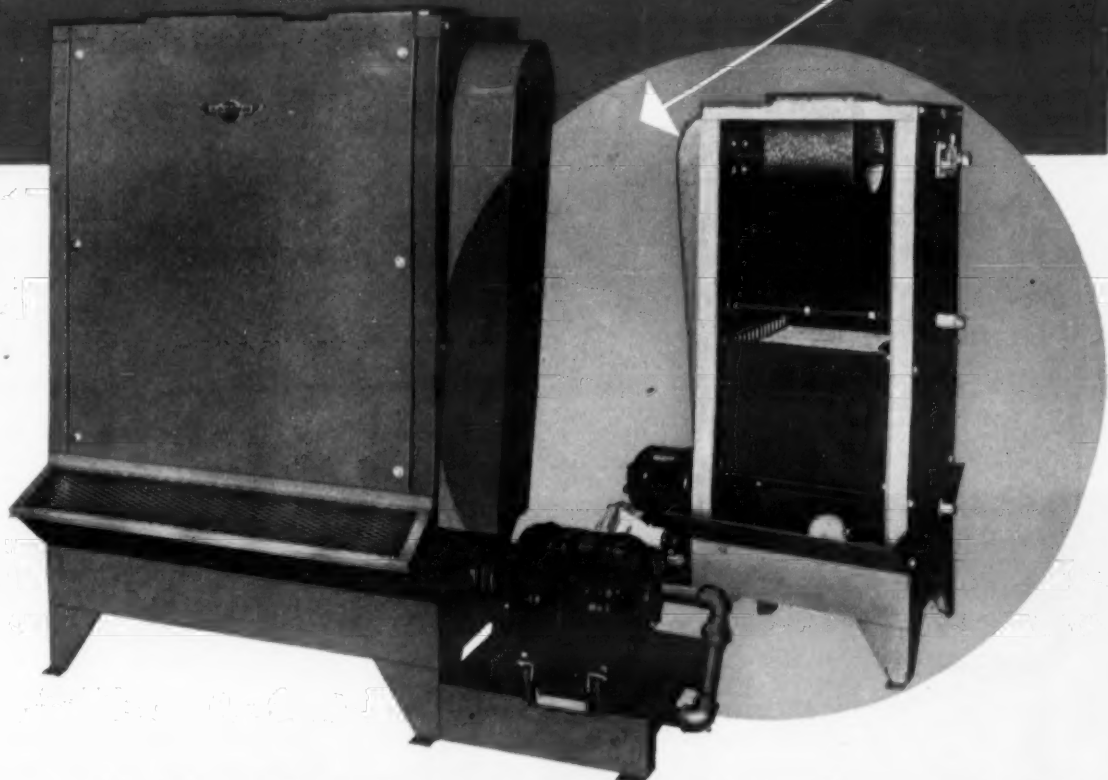
Curtis
REFRIGERATION
AIR CONDITIONING
COMMERCIAL

Packaged Air Conditioning Units
2 to 15 Tons
Condensing Units
1/4 hp. to 40 hp.

Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis 20, Mo.
Established 1854

LARKIN MET THE CHALLENGE

for a low-cost, high-quality cooling tower



The New CT Model HYDRO-MISER Line is a Wow!



WRITE FOR
DESCRIPTIVE FOLDER

Gives all the information
about the new CT Model
Hydro-Miser Cooling Tower.
Write for a copy today.

OUR wholesalers and their dealers said: "Give us a high-quality, low-cost cooling tower that will meet the needs of our customers."

We did! It's the brand-new CT Model Hydro-Miser Cooling Tower—10 models—ranging in capacity from 3 to 50 tons.

They saw. They liked. They bought. From North, East, South and West orders are pouring in. And our plant is turning them out in ever-increasing quantities.

If you, as a dealer, want to cash in on this ever-growing cooling tower market—get in touch with your wholesaler now!

LARKIN COILS INC.

Box 1699
ATLANTA, GEORGIA

True

MODERN COOLERS FOR A MODERN AGE



Offers you

a quality line of

Model T-832

DRY BOTTLE BEVERAGE COOLERS

Modern Cabinet Design—Ahead of the Industry.
Self-contained Models Ready to Plug in.
Kelvinator Hermetic Units—Five Year Warranty.
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FOR ADDITIONAL INFORMATION WRITE:

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2905 PINE STREET, ST. LOUIS 3, MISSOURI
Phone: LUcas 6700



Heat Pump Installed In Ft. Lauderdale Hotels

JACKSON, Mich.—Two Fort Lauderdale, Fla. hotels which opened during February became the first hotels on the Florida east coast to be equipped with complete year-round heat pump installations, Carl W. Millsom, sales manager for Acme Industries, Inc. here reported recently.

Both are using Acme's "Flow Temp" heat pump and Flow Temp convectors throughout, he said. One of the hotels is the Manhattan Towers and the other is the Terry Ann apartments.

"The Manhattan Towers is unusual," says Millsom, "in that it uses water from its swimming pool as the heat source. Then after being used, the water is sprayed through a fountain and back again."

Millsom said that this type of system is also being used at the Beachcomber hotel at Naples, Fla., which opened in January.

Millsom pointed out that heat pump installations are now being made in all parts of the country. The new Home Savings and Loan Association building in Canton, Ohio, which was just completed in March, has a Flow Temp heat pump system installed.

Woolworth Air Conditions New Grand Rapids Unit

GRAND RAPIDS, Mich. — Year-around air conditioning, a complete luncheon and fountain department, and modified self-service are features of F. W. Woolworth Co.'s third local store which was opened to the public recently.

The part of the building occupied by the new unit has been completely modernized. All selling space is on one floor of the store, which is located next to Herpolsheimer's, a leading western Michigan department store. For more efficient service, display counters have been placed back-to-back.

Cooling Planned for Hotel Addition

MIAMI BEACH, Fla.—According to Architect Roy France, plans have been completed and bids are being received for a 48-room air conditioned addition to the White House hotel, located at Ocean Blvd. and 15th St. here.

The addition is expected to be ready for occupancy by Nov. 1, officials of the Carole Realty Co., owner-operator of the hostelry, further stated.

Trouble In Paradise

Miami Is One of Nation's Big Markets for Comfort Cooling, But Failure To Get Right Price Has Hurt Many Contractors

MIAMI, Fla.—The postwar boom of Miami and neighboring Miami Beach as year-round resort areas would seemingly represent a terrific market for air conditioning.

It has—in terms of number of installations now operating and still logically expected for the future.

But this area is also developing into quite a graveyard for air conditioning contractors who "got the business" in both senses of the term.

At least, this is the view of an official of one firm that's made an outstanding success of the air conditioning business here. He's R. S. Lafferty, vice president of Hill York Corp., York distributor in the Miami territory.

He can cite case after case of contractors who've put in a few jobs and then been forced to close their doors. "Why, one major manufacturer has had six distributors, one after the other, here in the past six years," he comments.

Although it would be only human for one contractor to rejoice in another's failure to make the grade, Lafferty takes a more realistic view of the situation and finds it deplorable.

What's the usual cause of a contractor's going bankrupt? Generally, it results from his not charging enough for his products and services, because he does not know how much

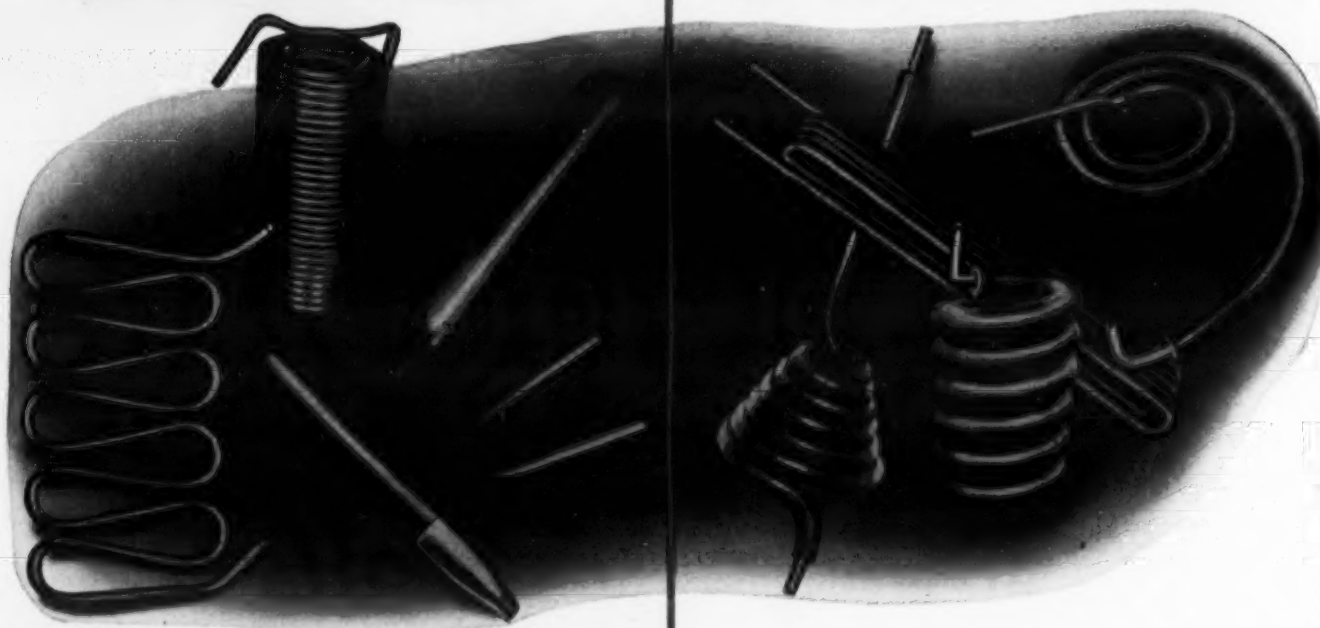


NEWEST HOTEL ON MIAMI BEACH, the Algiers, is air conditioned, of course. Competition and a growing summer trade is rapidly making Miami Beach an "all air conditioned city." With her right hand Shirley Galpin points to high-wall outlet in zoned air conditioning system installed by Hill York Corp., and with her left operates control which regulates amount of air entering guest room.

WOLVERINE will supply you with nonferrous tube fabricated in a variety of forms

Like this ...
IN PLAIN TUBE

Like this ...
IN FINNED TUBE



Call on Wolverine, as tube specialists, to provide you with tubing bent into any form that will best meet your particular requirements. Illustrated above are only a few typical forms.

Whether you require a simple bend, a closely wound coil or a more complex one—whether in plain tube or in the unique Wolverine Trufin* (the integral finned tube), it can be provided by Wolverine to your complete satisfaction.

Think of Wolverine first when you think of tube in any form—straight lengths or fabricated. Our Customer Engineering Service will be glad to help you in selecting the proper tube and tubular form. Send for our booklet, Fabricated Tubular Parts.

*Reg. U. S. Pat. Off.

Wolverine Trufin and the Wolverine Spun End Process available in Canada through the Unifin Tube Co., London, Ontario.

WOLVERINE TUBE DIVISION
of CALUMET & HECLA, INC.

Manufacturers of Tubing Exclusively

1413 CENTRAL AVENUE • DETROIT 9, MICHIGAN

Plants in Detroit, Mich. & Decatur, Ala. Sales offices in Principal Cities



Other Wolverine Products

CAPILATOR*
—the capillary tube for restriction purposes
COMMERCIAL TUBE
AUTOMOTIVE TUBE
CONDENSER TUBE
COPPER WATER TUBE (K-L-M)
ELECTRIC WELDED
STEEL TUBE
FABRICATED TUBULAR PARTS
WOLVERINE TRUFIN*
—the integral finned tube
REFRIGERATION AND AIR CONDITIONING TUBE (Plain or Tin Plated)
S.P.S. PIPE
SPUN-END TUBE†

*Reg. U. S. Pat. Off.
†A Patented Process RE 22465

Export Department, 13 E. 40th St., New York 16, N. Y.



New SHOPPING CENTER Uses Frick Air Conditioning Throughout

The eleven stores in the big new Freedom Shopping Center in Baltimore, built and owned by Henry J. Knott Enterprises, are all kept cool and comfortable with Frick Unit Air Conditioners. Several of these are tied-in with heaters for year-round use. Installation by the Paul J. Vincent Co., Baltimore Distributors who have put Frick Air Conditioning in over 100 theatres.

Frick Refrigerating and Air Conditioning Equipment can solve YOUR cooling problems equally well. Write

Frick Co.
WAYNESBORO, PENNA.
Also Builders of Power Farming and Sawmill Machinery

Frick Units, like this one in the Beauty Salon, Air Condition all the Shops at Freedom Center.



CONSOLE room air conditioner (Philco model 1104-J) offers individual comfort for office, meets civic ordinances, and can be used with casement window without altering window.

Room Cooler for the Complete Job

Window Unit, Console Fill Individual Needs Of Multiple Room Commercial Installations

PHILADELPHIA—A major trend in the installation of room air conditioner units has been their adoption by multiple room structures such as office buildings, hotels, and motels, says Jack Cherry, manager of air conditioner sales of Philco Corp.

Major reasons for this trend, Cherry says, are that it gives occupants of rooms full control over the amount of cooling they desire, and the lower cost of installing and operating the individual room air conditioners compared with a central system.

900 Units In Gulf Bldg.

The management of the towering Gulf Bldg. in Pittsburgh, Pa., after a year and a half study, installed 900 room air conditioners for its offices and just recently the Robert Richter Hotel, Miami Beach, Fla., ordered 150 room air conditioners. Two other hotels in Miami Beach, the Shelbourne and Vanderbilt, already have individually installed room air conditioners.

In reporting on the Gulf Building installation of Philco room air conditioners, Cherry said that the building management began their study on the premise that air conditioning "should function to create a comfortable, clean and healthfully pleasant atmospheric condition in the room where air conditioners are installed."

Gulf Bldg. officials said: "We have found that air cooled window type units meet all those requirements."

Philco and Gulf Oil Corp. research and engineering departments developed the "console" type room air conditioner that is being used in the Gulf Bldg. "Console" models are part of the regular Philco line.

Big Cost Differential

Cost differentials between a central system and a unit installation were cited by Ed Heath, manager of the Gulf building, as follows: a central system for the Gulf building would have meant an expenditure of between \$1,500,000 and \$2,000,000 while the total cost of window units would be around \$300,000. A bid of \$60,000 for a central system for just one floor was contrasted with the cost of supplying an equal amount of air conditioning with room units of only \$8,500.

A continuing cost factor was the inability to install a cooling tower for salvaging condenser cooling water, and estimates of 500 tons of water daily placed the cost at \$420 a day.

The decision to use the Philco model which does not extend beyond the glass line was based on appearance considerations and partially on the fact that it is expected that within six months legislation will be passed in Pennsylvania making this a legal requirement. In addition, window washing is difficult when air conditioners extend beyond the glass line.

Maintenance Dept. Handles Service

Other factors that led to the choice of room air conditioners by Gulf include ease of installation and service both of which can be done by the building's maintenance department. Maintenance men were sent to Philco's factory to be trained in installation and service of the room air conditioners.

Health also pointed out that with a central system, in case of a breakdown, the whole system is out. With

room air conditioners, there are 900 "hearts" to the system, and if any one should break down it can be serviced or replaced within half an hour.

A great deal of space is saved with the use of the room air conditioners. A central system would have required the use of two of the building's elevator shafts, further calling for the installation of two more elevators and erection of two shafts.

Installing the new Philco air conditioners will cause no disruption during working hours in the building offices. This would not have been possible during installation of a central system.

Tailored to Individual Needs

The room air conditioners are tailored to the individual needs of the rooms in the building and, as a result, are more flexible and adaptable than a central system would be. In addition, room air conditioners do a better job of humidification and can be used 12 months in the year, it was said.

According to Joe Mihm, sales manager for J. E. Miller Co., Philco distributors in Pittsburgh, the Gulf building installation of the units is believed to be the largest single order ever placed.

One hundred and fifty of the units have been installed and the 750 additional units are now being placed. Gulf is using Philco models, 180, a ¾-hp. "console" and 1100, the 1-hp. "console" and a ½-hp. window unit.

Another type office building that turned to individual room air conditioners instead of a central system was the Granite Steel Co. offices in Granite City, Ill.

The office building is surrounded by the steel mill and the mill heat



and intense summer heat on this Illinois plain area create a serious summer problem for mill officials. When the former central system would fail to function during these months, it meant an enforced layoff, since working in such heat and humidity was not possible.

After such interruptions that meant unnecessary layoffs and lost production, management installed room air conditioners. Even during last summer's intense and prolonged heat wave, there were no days off because of air conditioner failure.

Motels Good Prospects

Motels throughout the country, particularly in the south and southwest, generally have followed the trend of individual room air conditioner installations. The Alamo Plaza Hotel Courts of Waco, Tex., for example has 575 Philco air conditioners installed.

"The individual room air conditioner," Cherry said, "offers complete flexibility for any building. Individuals have different likes and dislikes in air conditioning and tenants are no different. Lighting, heating and decorating fall into this category."

"From a management standpoint, the installation of individual room air conditioners means no building alterations and in the event of redecorating an office or offices the units offer no problems."

"Comfort in air conditioning is related to the dehumidifying action of the unit and Philco air conditioners do a good job of creating an atmosphere of 50% relative humidity. And no matter what time of the year, these units will bring in fresh filtered air while at the same time shutting out noise, smoke, and pollens."

Multiple room buildings in cities which because of civic ordinances and other limitations cannot use a room air conditioner that projects beyond the window, now have available a console model that meets such requirements. The new "console" model can be used with steel casement windows without the need to cut any steel members of the window and it does not project beyond the window.

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JAN STERLING has a refreshing drink at the Kelvinator during the filming of "PONY EXPRESS" A Paramount Picture

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What Home Buyers Will Want

Public Will Require Far More Than Minimum of Comfort from Residential Air Conditioning Installation, Airtemp Engineer Tells Michigan ASHVE

DETROIT—Buyers of residential air conditioning equipment probably are going to want more than a "bare minimum" of comfort, suggested Ralph Gonzalez, chief application engineer of Airtemp Div., Chrysler Corp., in a talk before the Michigan ASHVE chapter here which took up the major design factors involved.

"Our industry has much to learn with reference to the smallest size of equipment that will please the bulk of the users. It may well be that air conditioning may be the exception to the rule," Gonzalez said.

"The rule that I refer to is the general rule that once the American public decides that it wants something, it has always, in the past, wanted more than a bare minimum. This has been true in automobiles, electric refrigerators, television sets, etc.

"So it may bear repeating that air conditioning may be the exception to the rule, but let's consider how little there is in the present experience to indicate that air conditioning will be this exception."

In his talk Gonzalez first traced the development of residential air conditioning, commenting that to veterans in the field, "It is interesting that residential air conditioning should be 'discovered' in 1953."

Then he presented slides giving the results of a survey of users of residential cooling equipment. A detailed report of this survey was published

in the Feb. 2, 1953 issue of AIR CONDITIONING & REFRIGERATION NEWS.

"It is an interesting commentary on the survey that the suggestion for improvement touched on first cost, service, maintenance, simplification of installation, and operation, but not one single comment on appearance, not one single comment on operating cost," Gonzalez emphasized.

"Builder-Buyer Represents New Factor"

"The builder-buyer represents a new factor for the industry in many ways," he continued. "Not the least of these is the builder's need for determining the minimum of public acceptability. The industry has been selling the individual home owner in most cases, and the sales and installation outlets have had an opportunity to gauge each case as a separate problem. Now we have the problem of determining a standard for groups of people living in individual homes."

"Both by laboratory tests and field experience, it has been determined that dry bulb temperatures in the 76° to 78° range are the most acceptable for general office work. Some of the lower operating temperatures that have been practiced have brought undesirable repercussions. However, in the average home, there will be one or two people that will constitute both judge and jury of comfort."

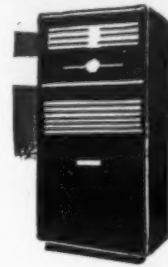
The speaker displayed a chart in which the ASHVE studies on effective temperature had been reduced to dry bulb temperatures at 50% relative humidity. It showed that about 10% of the people will be comfortable at 68° F. (with 50% r.h.) but that comfort for the maximum number occurs at 76° to 78° F.

"This chart bears out our experience with groups of people and will probably also stand up for our forthcoming experience with groups in individual homes. With a group of people in an office you can let them fight awhile and then set the thermostat at 76° to 78° and they'll be satisfied. At home, however," Gonzalez said, "you may find the individual who still feels warm at 74° even when it's 100° outdoors. That's a different problem."

On the subject of load calculations, Gonzalez expressed considerable skepticism of the "new" methods which have recently devised for residential work, such as calculating the load over a 24-hour period.

"I don't know of any of our air conditioning installations of the past that are calculated on the basis of the sun's shining 24 hours a day seven days a week. None of these installations will give guaranteed results under these conditions."

"Also," he said, "I don't think you can calculate the load on the basis of the temperature at just one particular hour of the day. The load will



AIR CONDITIONING (Year-Round Residential)

vary depending on what the temperature has been for the preceding five days, for example.

"Load calculations as used in the past have proven both useful and reasonably accurate in predicting the amount of capacity required for air conditioning to suit groups of people. Most of us think of our air conditioning calculations as having come direct from the laboratory. The truth is that the original cooling calculations were developed from experience factors refined and modified by laboratory findings."

"These experience factors always encompass the cycle situation with regard to sun hours and shade hours and the difference in dry bulb temperatures between day-time and night-time hours. There is currently a tremendous amount of discussion regarding the affect of some of these factors on the cooling load calculations for residential air conditioning."

Customer Is Sole Judge

"There are two major factors to remember," Gonzalez declared. "One of these is that in the final analysis the customer is the sole judge of equipment adequacy. The other factor is that we have to select equipment in capacity increments of 2, 3, and 5-hp. sizes."

"We can argue over a difference in load calculations of 500, 1,000, or perhaps 1,500 B.t.u., but then you finally have to choose between a unit of 2, 3, or 5 tons capacity, a difference of 12,000 or 24,000 B.t.u., respectively."

"Another item of discussion is the air quantity per ton," continued Gonzalez. The industry is generally agreed that an air quantity between 300 and 400 c.f.m. per ton should be circulated through the cooling coil of the equipment. Less than 300 c.f.m. per ton will result in occasional freeze-ups of the cooling coil, particularly in early spring or late fall when humidity may be low and only sensible cooling is required.

"There is also considerable dis-

cussion regarding the use of the same air quantities for heating as are used for cooling. The bulk of the experience is that with proper design, the same air volumes may be used for both the cooling and heating duties. There are those, however, who take violent exception to this opinion," he admitted.

Summer Air Distribution Causes Controversy

"Another item of considerable controversy in current discussion is the method of distributing air into the room for summer cooling. There are, in problems of air distribution, several ways to accomplish the same result. However, when there is more than one way of doing something, people expect one method to be better than any other. That's not necessarily true. There are many ways of doing a good job of heating and cooling."

"It is a matter of record that with proper design values and under favorable conditions, air has been supplied from floor grilles, from baseboard grilles, from low side wall grilles, from high side wall grilles, from ceiling registers, and from outside wall registers. I do not have a record of its having been done, but I am certain with proper design air could also be properly distributed for summer cooling from the radiant baseboard warm air arrangements that are used along the outside walls."

Low Air Outlets Prompt Greatest Discussion

"The air distribution factors for ceiling outlets and high side wall outlets are published in most every grille manufacturer's catalog. It is the floor, baseboard, and low side wall outlets that are subjects of frequent conjecture," Gonzalez commented.

"Experience with cabinet outlets 30 in. from the floor has shown that velocities between 400 and 500 f.p.m. provide good distribution. The same

(Concluded on next page)

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On an American Standard Taper Pipe Thread a spiral cavity occurs between the crest and the root of the thread. As shown, this void must be filled with a luting compound to insure a tight joint.

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1. Now, with Superior Dryseal Pipe Threads, the crest and the root are flat, as shown here. The roots of the thread of one part have a wider flat surface and thereby crush the sharper crests of the mating part. There is no void left to form a leaking joint.

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TYPHOON

AIR CONDITIONING CO. INC., 794 Union Street, Brooklyn 15, N. Y.
Specialists in Air Conditioning Since 1909

What Buyers Will Want In Year-Round Jobs

(Concluded from preceding page) velocities have been found to work well for floor outlets. Low side wall outlets have been found to operate satisfactorily at 500 to 600-ft. velocities.

"In some cases the outlets installed for the low side wall heating have proven entirely satisfactory to the owner for cooling without any change in the outlet. In other cases double deflection grilles have been installed. In still more difficult cases it has been found necessary to add a sheet metal extension and locate the grille at a 45° angle, but these instances have been very rare.

Design of Return Air System

"The design of the return air system depends in part on the supply air systems. Some supply systems need help from the return air location. Other supply air systems do not depend on any help from the return air systems and the only requirements are that provisions be made for the return of an adequate amount of air to the cooling coil," he said.

"Questions are frequently asked regarding the need for insulation of the basement ducts for anti-sweat purposes in air conditioned houses. Experience on air conditioning existing houses has definitely shown that in most cases no insulation is required on the basement ducts.

"There have been a few instances of sweating due to open doorways to the outside, unvented clothes dryers, or some other unusual circumstance such as undue moisture seepage through the basement walls.

"Experience with newly poured concrete basements may provide some disconcerting answers due to the moisture given off by the concrete during the first year," Gonzalez also pointed out.

"Insulation in attic spaces is definitely required when ducts and equipment are located in the attic area to prevent undue heat gain in summer and loss in winter."

The speaker also threw out some ideas for customer education. He suggested that the customer be educated to accept the idea of constant fan operation during the cooling season because "this helps lick zoning problems."

Thermostatic Control Advised

Year-round control of the system by thermostat instead of manual control was advised.

"With thermostatic control, the system would come on automatically when the temperature hits 78°, say, instead of the homeowner's waiting until the house gets up to 85°."

The customer also ought to be educated to accept air conditioning of his complete house as a follow-up to cooling just one room, Gonzalez said.

He also told the group that the industry trend "is to air-cooled equipment. This is an immediate requirement in many southern areas where water is expensive or pro-

hibited by ordinance. It is definitely an idea for the future in an area where water is now readily available at low cost. Water-cooled equipment definitely produces lower operating costs where water is available at relative low rates," he declared.

"That is the condition that prevails in Michigan and a large part of Ohio where water-cooled equipment is definitely cheaper to operate.

"There is also a trend toward complicated controls to provide humidity control and other refinements. We may well go through a period of complicated systems before we learn how to simplify them. One thing's certain, however—when we get around to it, they will be simplified.

Builder Asked to Reverse

Practice of Making Building Tight

"Here we have a problem with the builder," Gonzalez said. "He's been told to make the building tight to prevent infiltration and then he's told to cut a hole to provide air for combustion in winter. This doesn't make sense to the home builder.

"The house of average construction hasn't given much trouble in summer or winter regarding ventilation. The problem of providing outside air in summer is not too bad, but for winter it's still in the formative stage. For example, a strong wind in winter could force a lot more 0° air in through the outside air intake than the system was designed to handle.

"Of course, you could get around this by having a damper in the air intake controlled by the bonnet temperature. This, however, would cost about \$200 extra per house. We may eventually have flues to bring in outside air from the roof."

Air Intake Offers Problems

Suggested Charles R. Beltz, a local contractor who's air conditioned several homes: "If it's a small house, don't put the outside air intake on the side of the house where the neighbor parks his car. This can lead to difficulties when the neighbor starts up the car in the morning."

It was also pointed out that under some conditions the outside air intake can operate in reverse and become a second chimney, which isn't desirable either.

On the problem of simplified controls and consumer education, Beltz commented:

"We have installed some chilled water systems that were completely automatic. With these, heating would come on in the morning; the system would switch to cooling during the middle of the day and then back to heating in the evening. But the owners would soon wonder whether they weren't burning oil or gas at the same time the cooling system was operating.

"They would object to spending this money and insist on our changing the system to manual control. Then after a week of that, they'd make us come back and hook up the controls for completely automatic operation again."



THE G-E HEAT PUMP at the right of the picture furnishes the heating and cooling for "Bill's Diner" in North Canton, Ohio. Bill Wurtz, owner, said that the compactness of the unit was what sold him on this type in contrast to conventional heating and cooling systems.

'Bills Diner' Gets Heating and Cooling From 5-Hp. Heat Pump Installation

NORTH CANTON, Ohio—A General Electric 5-hp. heat pump is providing the heating and cooling in "Bill's Diner" here. With the cooking also done by electricity, the glistening, modern establishment is believed to be America's first all-electric diner.

According to Bill Wurtz, owner of the diner, he selected the G-E air-to-air unit over conventional heating and cooling equipment because it was

compact in size and took up only a limited amount of valuable floor space.

He adds that since he was making his new diner modern in every other respect, he also wanted the latest and most modern means of heating and cooling it.

Refrigeration Distributing Co., G-E distributor in Canton, made the installation. The unit is located in a small, out-of-the-way service corner

of the diner. Short duct runs bring the cool or warm air into the diner proper. The installation is a relatively simple one and was made the same day the diner was put up.

In the winter, the heat pump extracts heat from the outdoor air (even when its below freezing) to warm the diner, and in the summer, reversing its cycle of operation, it extracts heat and moisture from the indoor air to cool the diner. Switch-over between heating and cooling is completely automatic from season to season and within the same day if the need arises.

G-E has been on the market with its heat pump a little over a year now and about 35% of its installations have been in commercial establishments, with the remainder going into homes. The company is currently producing 3 and 5 hp. models.

New Orleans Builder To Offer Air Cooled Homes

NEW ORLEANS — The first two units to be built in a 23-home subdivision in Jefferson will be air conditioned, it was announced recently by Industrial Builders Construction Co.

Work was to start early in March on the pilot houses, which are expected to be opened for public inspection in April. Air conditioning will be an optional feature, but all homes may be built to accommodate systems planned for later.

Prices of the two and three-bedroom residences will range from \$16,500 to \$22,500. Features besides air conditioning will include separate dining rooms and flexible floor plans to facilitate indoor-outdoor living.

Easy to See Why
SERVEL SUPERMETIC
Runs Cooler . . . Quieter . . . More Economically

Geyser-like action of oil spray from top of shaft dissipates compressor heat through power unit dome — soundproofs movement of internal parts.

Refrigerant vapor returning from evaporator coil envelops stator windings — reduces motor heat to assure highest efficiency of power elements.

Easily accessible controls have long capacitor leads — only wiring required is to connect supply line to 2 terminal posts.

Internal spring mountings eliminate vibration. Unit can be bolted securely to mounting supports.

Here are Servel features that boost profits when refrigeration fixtures are "powered by Supermetics." Simple to install, exceptionally easy to check — Servel's quiet, economical operation will please your customers, create repeat sales. If you are not now using Servel, order a Supermetic next time you have a tough job or a critical customer. There's a size to match every requirement. All models are factory-warranted.

Servel

SERVEL, INC., Electric Refrigeration Division, Evansville 20, Indiana

THE NAME TO WATCH FOR GREAT ADVANCES
IN REFRIGERATION AND AIR CONDITIONING



SEE PAGE 20



32 Servel Supermetic models for every commercial refrigeration need — from 1/4 through 3 H.P.

Jordan Shows Room Cooler, Dehumidifier as Entries Into Conditioning Field

PHILADELPHIA—A new Jordan room air conditioner and a dehumidifier are currently being introduced to the consumer market. This marks the entry of Jordan Refrigerator Co. into the air conditioning field.

The room air conditioner is a $\frac{3}{4}$ -hp. window type unit designed to cool, dehumidify, and filter air. A four-way adjustable airflow grille is on the face of the unit. Air vents can be moved upward, downward, to the right or left, and each vent can be moved individually, if desired.

"Dux-All" insulation prevents sweating and makes operation exceptionally quiet, according to Jordan.

The conditioner uses a Tecumseh hermetically sealed compressor. Cabinet is finished in grey Hammertone baked enamel and is covered with a one-year guarantee, plus four-year replacement warranty on the hermetic unit.

Interior cabinet is 27 $\frac{1}{4}$ in. across, 15 $\frac{1}{2}$ in. high, and extends 11 $\frac{1}{2}$ in. into the room. Outer cabinet is 25 $\frac{1}{4}$ in. across, 15 in. high, and 20 in. deep. A complete installation kit is provided.



BALL BEARING CASTERS allow new Jordan dehumidifier to be wheeled from room to room.



JORDAN ROOM COOLER features four-way adjustable air flow grille on face of air conditioning unit.

Major feature of the dehumidifier is that it is furnished with four ball bearing casters so that it can be wheeled from room to room. Carrying weight is 68 lbs. The unit is designed to remove 11 qts. of water from the air in a 24-hour period in a room up to 8,000 cu. ft.

The plug-in type unit measures 26 $\frac{1}{2}$ in. high, 16 in. deep, and 15 in. wide. The $\frac{1}{4}$ -hp. compressor is hermetically sealed. It is finished in a grey Hammertone baked enamel. Dehumidifier carries a one-year factory guarantee and a four-year replacement warranty on the hermetic unit.

According to Harry Fogel, vice president in charge of sales, plans are under way to expand both the air conditioner and dehumidifier line, but limited production facilities at the present factory make this difficult. When construction is completed on the new plant in Northeast Philadelphia new models will be added.

Hyde-Wilder To Distribute I-H Refrigeration, Air Conditioning In Dallas Territory

DALLAS—Hyde-Wilder Co. has been appointed distributor of International Harvester refrigeration and air conditioning equipment, according to Ralph Cox, district manager of general sales and refrigeration for the company.

E. V. Hyde, president of the new distributorship, has been associated with radio, television, and allied appliances for a number of years. Jack Wilder, vice president, has had nine years' experience in radio, television, and refrigeration.

The new firm will handle wholesale distribution of International Harvester refrigeration and air conditioning equipment for Dallas, Tarrant, Wichita, McLennan, and Smith counties.

USE THE COUPON!
For "easy-to-get" product information . . . use coupon in the "Information Center" form.



Cool water—handy to the job—saves production time! Install overhead, behind walls or under fixtures to conserve valuable floor space.



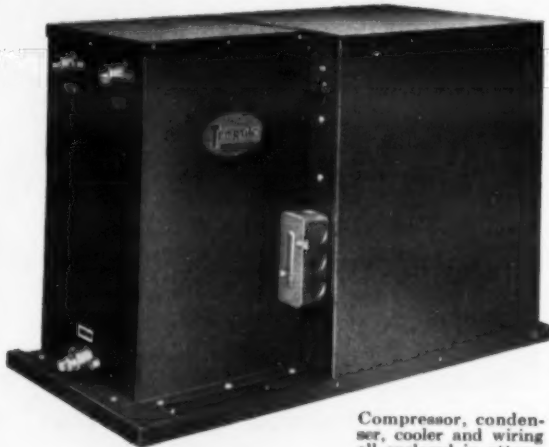
For schools, institutions, all type of buildings, wherever cool water is needed! No costly piping! No major overhauling!



Ideal for many commercial uses (e.g., photo & X-ray developing) with its accurate temperature control. Cools light oils and some chemicals.

Install the versatile Tempprite in any number of the most convenient locations, in restaurants or cafeterias . . . for peak serving efficiency! Reduce wasted steps and wasted motion!

ACTIVE Markets FOR Profit Making TEMPRITE REMOTE WATER COOLERS



Compressor, condenser, cooler and wiring all enclosed in attractive metal cabinet. Approved by Underwriters.



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Birmingham, Michigan

☐ Send me data on remote type coolers.
☐ I am interested in a franchise to distribute Tempprite water coolers.

Name _____
Address _____ Zone _____
City _____ State _____

LISTING 1953 Room Air Conditioner Models

(Listing Is by Trade Name Currently Used)

Admiral

Admiral Corp., 3800 W. Cortland St., Chicago 47, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
33C3	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 22 14 $\frac{1}{2}$	3		\$199.95
50C5	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 22 14 $\frac{1}{2}$	3	Yes	299.95
75C5	$\frac{3}{4}$	60—115	26 $\frac{1}{2}$ 22 14 $\frac{1}{2}$	3	Yes	379.95
75C7	$\frac{3}{4}$	60—230	26 $\frac{1}{2}$ 22 14 $\frac{1}{2}$	3	Yes	379.95
100C7	1	60—230	26 $\frac{1}{2}$ 23 $\frac{1}{2}$ 14 $\frac{1}{2}$	3	Yes	459.95

Bryant

Bryant Heater Div., A. G. E., Inc., 17825 St. Clair Ave., Cleveland, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
50-551	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 33 $\frac{1}{2}$ 15 $\frac{1}{2}$	15 $\frac{1}{2}$	Yes	
75-551	$\frac{3}{4}$	60—208	26 $\frac{1}{2}$ 33 $\frac{1}{2}$ 15 $\frac{1}{2}$	15 $\frac{1}{2}$	Yes	
100-551	1	60—230	26 $\frac{1}{2}$ 34 $\frac{1}{2}$ 15 $\frac{1}{2}$	15 $\frac{1}{2}$	Yes	

Cavalier and Lincoln

Cavalier Air Conditioning Co., 1400 Conti, Houston, Texas

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
F752	$\frac{1}{2}$	60—115	27 31 $\frac{1}{2}$ 15	14	Yes	\$369.50
F102	1	60—230	27 31 $\frac{1}{2}$ 15	14	Yes	399.50
F202	2	60—230	28 43 19 $\frac{1}{2}$	19	Yes	759.00
W103	1	60—230	27 15 33**	*	Yes	439.00

*Mounts outside or built-in flush with inside wall.

**Over-all measurement—inside room view 24 $\frac{1}{2}$ " x 16".

Chelsea

Chelsea Fan & Blower Co., Inc., 639 South Ave., Plainfield, N. J.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
RMC-1	$\frac{1}{2}$	60—115	25 $\frac{1}{2}$ 19 $\frac{1}{2}$ 15	11 $\frac{1}{2}$	Yes	\$245.00
RMC-2	$\frac{1}{2}$	60—115	25 $\frac{1}{2}$ 19 $\frac{1}{2}$ 15	9 $\frac{1}{2}$	Yes	310.00
RMC-3	$\frac{1}{2}$	60—115	28 $\frac{1}{2}$ 30 $\frac{1}{2}$ 14 $\frac{1}{2}$	14 $\frac{1}{2}$	Yes	375.00

Chrysler Airtemp

Chrysler Airtemp, 1600 Webster St., Dayton 1, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
1675-1	$\frac{1}{2}$	60—115	27 $\frac{1}{2}$ 35 $\frac{1}{2}$ 15 $\frac{1}{2}$	18	No	
1600-1	1	60—230	27 $\frac{1}{2}$ 35 $\frac{1}{2}$ 15 $\frac{1}{2}$	18	No	

Coldspot

Sears, Roebuck & Co., 925 So. Homan Ave., Chicago 7, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
243.5361130	$\frac{1}{2}$	60—115	23 19 $\frac{1}{2}$ 15	11 $\frac{1}{2}$	Yes	\$199.95
244.5361120	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 30 14 $\frac{1}{2}$	12 $\frac{1}{2}$	Yes	279.95
244.5361340	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 30 14 $\frac{1}{2}$	12 $\frac{1}{2}$	Yes	319.95
244.5361100	1	60—230	26 $\frac{1}{2}$ 30 14 $\frac{1}{2}$	12 $\frac{1}{2}$	Yes	399.95

Cool-A-Matic

Automatic Firing Corp., 4417 Oleatha Ave., St. Louis, Mo.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
RC-503	$\frac{1}{2}$	60—115	27 28 $\frac{1}{2}$ 16 $\frac{1}{2}$	12 $\frac{1}{2}$	Yes	\$329.50
RC-753	$\frac{1}{2}$	60—115	27 28 $\frac{1}{2}$ 16 $\frac{1}{2}$	12 $\frac{1}{2}$	Yes	379.50
RC-103	1	60—230	27 36 16 $\frac{1}{2}$	12	Yes	444.00

Coolerator

Coolerator Corp., Duluth, Minn.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
AB 33	$\frac{1}{2}$	60—115	23 $\frac{1}{2}$ 29 $\frac{1}{2}$ 14 $\frac{1}{2}$	10 $\frac{1}{2}$	Yes	\$229.95
AB 50	$\frac{1}{2}$	60—115	23 $\frac{1}{2}$ 29 $\frac{1}{2}$ 14 $\frac{1}{2}$	10 $\frac{1}{2}$	Yes	329.95
AB 75	$\frac{1}{2}$	60—115	23 $\frac{1}{2}$ 29 $\frac{1}{2}$ 14 $\frac{1}{2}$	10 $\frac{1}{2}$	Yes	399.95
AB 76	$\frac{1}{2}$	60—208	23 $\frac{1}{2}$ 29 $\frac{1}{2}$ 14 $\frac{1}{2}$	10 $\frac{1}{2}$	Yes	409.95
AB-77	$\frac{1}{2}$	60—230	23 $\frac{1}{2}$ 29 $\frac{1}{2}$ 14 $\frac{1}{2}$	10 $\frac{1}{2}$	Yes	402.45

Cool-Ette

Cool-Ette, Inc., 20080 Jas. Couzens Hwy., Detroit 35, Mich.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
1-R200FP	2	60—230	25 21 46	21	No	
1-R300FP	3	60—230	25 21 46	21	No	

Crosley

Crosley Div. of Avco Mfg. Corp., 1329 Arlington, Cincinnati, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
ACE-33	$\frac{1}{2}$	60—115	22 $\frac{1}{2}$ 27 13 $\frac{1}{2}$	11 $\frac{1}{2}$	Yes	\$229.95
ACE-50	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 27 $\frac{1}{2}$ 13 $\frac{1}{2}$	14	Yes	329.95
ACE-75S	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 27 $\frac{1}{2}$ 15 $\frac{1}{2}$	14	Yes	379.95
ACE-75D	$\frac{1}{2}$	60—115	26 $\frac{1}{2}$ 27 $\frac{1}{2}$ 15 $\frac{1}{2}$	14	Yes	399.95
ACE-100	1	60—115	26 $\frac{1}{2}$ 27 $\frac{1}{2}$ 15 $\frac{1}{2}$	13 $\frac{1}{2}$	Yes	469.95

Fedders

Fedders-Quigan Corp., 57 Tonawanda St., Buffalo, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
W34	$\frac{1}{2}$	60—115	23 $\frac{1}{2}$ 11 $\frac{1}{2}$ 13 $\frac{1}{2}$	11 $\frac{1}{2}$	Yes	\$229.95
W36	$\frac{1}{2}$	60—115	23 $\frac{1}{2}$ 11 $\frac{1}{2}$ 13 $\frac{1}{2}$	11 $\frac{1}{2}$	Yes	329.95
W39	$\frac{1}{2}$	60—115	27 13 $\frac{1}{2}$ 15 $\frac{1}{2}$	13 $\frac{1}{2}$	Yes	379.95
		60—208				
DW39	$\frac{1}{2}$	60—115	27 13 $\frac{1}{2}$ 15 $\frac{1}{2}$	13 $\frac{1}{2}$	Yes	399.95
		60—208				
		60—230				
W311	1	60—208	27 $\frac{1}{2}$ 13 $\frac{1}{2}$ 15 $\frac{1}{2}$	13 $\frac{1}{2}$	Yes	469.95
		60—230				
F17	$\frac{1}{2}$	60—115	33 $\frac{1}{2}$ 18 $\frac{1}{2}$ 36 $\frac{1}{2}$	18 $\frac{1}{2}$	Yes	589.95
F310	1	60—230	37 $\frac{1}{2}$ 21 $\frac{1}{2}$ 39 $\frac{1}{2}$	21 $\frac{1}{2}$	Yes	679.95
F315	1 $\frac{1}{2}$	60—230	37 $\frac{1}{2}$ 21 $\frac{1}{2}$ 39 $\frac{1}{2}$	21 $\frac{1}{2}$	Yes	879.95

Friedrich Floatingair

Ed Friedrich, Inc., 1117 E. Commerce St., San Antonio, Texas

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
W751S	$\frac{1}{2}$	60—115	15 $\frac{1}{2}$ 26 $\frac{1}{2}$ 31 $\frac{1}{2}$	9 $\frac{1}{2}$	Yes	
W752S	$\frac{1}{2}$	60—230	15 $\frac{1}{2}$ 26 $\frac{1}{2}$ 31 $\frac{1}{2}$	9 $\frac{1}{2}$	Yes	
W1002S	1	60—230	15 $\frac{1}{2}$ 26 $\frac{1}{2}$ 31 $\frac{1}{2}$	9 $\frac{1}{2}$	Yes	

Room Air Conditioner Models

Carrier

Carrier Corp., 300 South Geddes St., Syracuse, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
Window Models.						
51E1-119	1/2	60-115	24 1/2 28 1/2 12 1/2	*	No	\$239.00
51E2-119	1/2	60-115	24 1/2 28 1/2 12 1/2	*	No	319.00
51E3-119	3/4	60-115	26 1/2 33 1/2 15	*	No	399.00
51E3-149	3/4	60-230	26 1/2 33 1/2 15	*	No	399.00
51E3-259	3/4	60-208	26 1/2 33 1/2 15	*	No	399.00
51E3-349	3/4	60-230	26 1/2 33 1/2 15	*	No	424.00
(thermostatic)						
51E3-379	3/4	60-208	26 1/2 33 1/2 15	*	No	424.00
(thermostatic)						
51E4-119	1	60-230	26 1/2 33 1/2 15	*	No	474.00
51E4-259	1	60-208	26 1/2 33 1/2 15	*	No	474.00
51E4-349	1	60-230	26 1/2 33 1/2 15	*	No	499.00
(thermostatic)						
51E4-379	1	60-208	26 1/2 33 1/2 15	*	No	499.00
(thermostatic)						
Console Models.						
51M2-119	1	60-230	34 21 40			
51M2-619	1	60-208	34 21 40			
51M2-349†	1	60-230	34 21 40			
51M3-119	1 1/2	60-230	34 21 40			
51M3-619	1 1/2	60-208	34 21 40			
50K2-678	2	60-230	36 21 39			

*Outlet grille only.
†Water cooled.

Clime-Matic

United Conditioning Corp., Croton Falls, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
WC-753	3/4	60-110	25 1/2 30 16 1/2	13	Yes	\$389.00
WC-503	1/2	60-110	24 1/2 29 15 1/2	13	Yes	342.00

Crane-Line

Crane Co., 836 So. Michigan Ave., Chicago 5, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
50-CR-551	1/2	60-115	26 1/2 33 1/2 15 1/2	15 1/2	Yes	..
75-CR-551	3/4	60-115	26 1/2 33 1/2 15 1/2	15 1/2	Yes	..
		60-208				
		60-230				
100-CR-551	1	60-230	26 1/2 34 1/2 15 1/2	15 1/2	Yes	..

Deering

The Deering Air Conditioning Co., 1069 Celestial St., Cincinnati 2, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
CW-44-3	1/2	60-115	16 30 13	12	No	\$239.95
CW-66-3	1/2	60-115	16 30 13	12	No	329.95
CW-132-3	1*	60-230	26 30 13	12	No	499.95

*(Dual halves)

Fresh'nd-Aire

Fresh'nd-Aire Co., a Division of Cory Corp., 221 N. LaSalle St., Chicago 1, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
A312	1/2	50-60-115	27 30 1/2 14 1/2	9 1/2	Yes	\$349.95
A334	3/4	50-60-115 also 230	27 30 1/2 14 1/2	9 1/2	Yes	399.95
A310	1	230 also 208	27 32 1/2 14 1/2	9 1/2	Yes	469.95

Frigidaire

Frigidaire Div., General Motors Corp., 300 Taylor St., Dayton 1, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
Super-33	1/2	60-115	22 1/2 30 1/2 16 1/2	13	Yes	\$229.95
Super-50	1/2	60-115	22 1/2 30 1/2 16 1/2	13	Yes	319.95
		60-208	28 1/2 31 1/2 16 1/2	13	Yes	
Twin-75	3/4	60-230	28 1/2 31 1/2 16 1/2	13	Yes	389.95
Twin-75A	3/4	60-115	28 1/2 31 1/2 16 1/2	13	Yes	409.95
		60-208	28 1/2 31 1/2 16 1/2	13	Yes	
Twin-100	1	60-230	28 1/2 31 1/2 16 1/2	13	Yes	459.95
Twin-100A	1	60-115	28 1/2 31 1/2 16 1/2	13	Yes	479.95

Frigid

Frigid, Inc., 128 32nd St., Brooklyn 32, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
7950D	1/2	60-115	26 1/2 28 1/2 16	..	..	..
7975D	3/4	60-115	26 1/2 28 1/2 16	..	..	..
7975DA	3/4	60-115	26 1/2 28 1/2 16	..	..	..
7910D8	1	60-115	26 1/2 28 1/2 16	..	..	..

COOL PROFIT FROM JORDON!

TWO
BRAND
NEW
PRODUCTS!

ROOM AIR CONDITIONER

with 4-WAY, ADJUSTABLE AIR FLOW!

Easily set to circulate air to any direction. Smartly styled cabinet, finished in Gray Hammetone, Baked enamel. 3/4 H.P. Compressor. Trim, compact, easily installed. Backed by Jordan Warranty.

NEW! ROOM DEHUMIDIFIER

Portable! Practical! Profitable!

Model DE-11. Can withdraw 11 qts. moisture in 24 hrs. from 8,000 cu. ft. area. On easy-rolling ball-bearing casters. Gray Hammetone, H-Baked enamel finish.

PRODUCTS THAT SELL!
FEATURES THAT SELL!
PROMOTIONS THAT SELL!Be ready!
Start early!
Write or Wire
for Details NOW!JORDON SALES COMPANY
58th and Grays Ave.—Phila. 43, Pa.

IF IT'S JORDON, IT'S RELIABLE!

General Electric

General Electric Co., Major Appliance Div., 310 W. Liberty St., Louisville 2, Ky.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
FA-55B	1/2	60-115	27 1/2 28 14 1/2	14 1/2	Yes	\$349.95
FA-75A	3/4	60-115	27 1/2 33 14 1/2	14 1/2	Yes	429.95
FA-75A	3/4	60-230	27 1/2 33 14 1/2	14 1/2	Yes	436.95

Gibson

Gibson Refrigerator Co., Greenville, Mich.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
GAC-3310	1/2	60-115	26 1/2 30 16 1/2	13 1/2	Yes	\$229.95
GAC-5010	1/2	60-115	26 1/2 30 16 1/2	13 1/2	Yes	319.95
GAC-7520	3/4	60-230	26 1/2 30 16 1/2	13 1/2	Yes	389.95
GAC-7510	3/4	60-115	26 1/2 30 16 1/2	13 1/2	Yes	379.95

International Harvester

International Harvester Co., 180 No. Michigan Ave., Chicago 1, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
L-350	1/2	60-115	23 1/2 25 1/2 13 1/2	12 1/2	No	\$229.95
L-500	1/2	60-115	27 1/2 31 1/2 15 1/2	14 1/2	No	309.95
L-750	3/4	60-115	27 1/2 31 1/2 15 1/2	14 1/2	No	359.95
L-751	3/4	60-230	27 1/2 31 1/2 15 1/2	14 1/2	No	359.95
L-1000	1	60-230	27 1/2 31 1/2 15 1/2	14 1/2	No	..

Jordan

Jordan Refrigerator Co., 58th St. & Grays Ave., Philadelphia, Pa.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
1	1/2	60-115	27 1/2 25 1/2 15	..	Yes	..

Kauffman

Kauffman Air Conditioning Co., 4505 Olive St., St. Louis, Mo.

Model No.	Size (In Hp.)	Cycle and Voltage	Dimensions (In.)—Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
"X"	3/4	110-220-208	28 33 14	13	Yes	..
"Y"	1	110-220-208	28 33 14	13	Yes	..
"J"	1	60-60/	28 33 14	13	Yes	..
"W" (Console)	3/4	25-50-60/	37 19 36	19	Yes	..
		110-220-208				
"A" (Console)	1	25-50-60/	37 19 36	19	Yes	..
		110-220 a.c.				
		115-230 d.c.				
"B" (Console)	1 1/2	25-50-60/	44 23 40	23	Yes	..
		110-220 a.c.				
		115-230 d.c.				
"C" (Console)	2	25-50-60/	44 23 40	23	Yes	..
		110-220 a.c.				
		115-230 d.c.				

All models can be equipped with electric heating elements.

(Continued on following page)

Hotels, Motels Are Ready-Made Customers for Multiple Units

PHILADELPHIA—Some recent installations by hotels and motels have pointed up the type of potential market that exists for "multiple" installation of room air conditioners, says Jack Cherry, air conditioner sales manager of Philco Corp.

A short time ago, the Robert Richter hotel in Miami Beach installed 150 Philco room air conditioners. This installation followed similar ones made by Miami Beach hotels Shelbourne and Vanderbilt.

The Alamo Plaza Hotel Courts in Waco, Texas, has completed installation of 575 Philco room air conditioners on its premises, Cherry states.

Chattanooga Utility Outlines

2-Month Room Cooler Promotion

CHATTANOOGA, Tenn. — Eight power-packed weeks of advertising to help dealers sell room air conditioners this summer is planned by the Electric Power Board here.

In outlining its promotion plans, the utility reminded dealers that nearly \$1,000,000 worth of room air conditioners were sold in Chattanooga last year. It told them to "write your own year" for 1953.

The EPB campaign plans include several large newspaper advertisements during May and June plus special sections in both local dailies, 168 30-second radio spots on three stations plus Drue Smith's "Party Line" program during May and June, 14 Power Board windows plus floor displays during May, June, and July, car cards in 65 city buses, folders and hand-outs from its display floor, and billboard advertising.

IT'S GOOD TO BE A YORK DEALER



3/4 horsepower Window Model



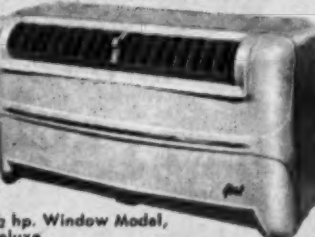
3/4 hp. Console Model



1 1/2 hp. Twin Conditioner



1/2 hp. Window Model



1/2 hp. Window Model, Deluxe



1/2 hp. Window Model, Standard



1 hp. Window Model



1 hp. Console Model



2 hp. Twin Conditioner

The York Dealer is BOUND to feel better, look better, be a better merchant.

He has the most complete line of room air conditioners in the field to meet the many desires of a whole new group of prospects. He has the secure feeling that he will sell—at full profit—every unit he buys.

Specifications and models subject to change without notice.

He knows his distributor's organization, trained to the exacting York standards, will never let him down on service.

He gets sales-making promotion—a continually expanding advertising program devoted exclusively to one field—mechanical cooling! It's good to be a York Dealer in 1953.



YORK
HEADQUARTERS FOR MECHANICAL COOLING . . . SINCE 1885



Revco
Chill Chest
FOOD FREEZERS

*You Know
You Sell The
Very Best
when it's Built
By Revco*



Write For Distributor's Name

REVCO, INC. • DEERFIELD, MICH.

Room Air Conditioner Models

Kelvinator

Kelvinator Div., Nash-Kelvinator Corp., 14250 Plymouth Rd., Detroit 32, Mich.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
RAC-60	1/2	60-115	28 1/2 24 1/2 13 1/2	9 1/2	Yes	\$329.95
RAC-80	3/4	60-115	33 1/2 26 1/2 13 1/2	9 1/2	Yes	\$399.95

Lipman

Lipman Refrigeration Div., Yates-American Machine Co., Beloit, Wis.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
L53	1/2	60-115	29 1/2 29 1/2 16 1/2	12 1/2	Yes	\$355.00
L73	3/4	60-115	29 1/2 29 1/2 16 1/2	12 1/2	Yes	\$399.00
L73A	3/4	60-230	29 1/2 29 1/2 16 1/2	12 1/2	Yes	\$415.00

Magic Chef Room Air Conditioner

Magic Chef, Inc., 1641 S. Kingshighway, St. Louis 10, Mo.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
RC 503	1/2	60-115	27 28 1/2 16 1/2	12 1/2	Yes	\$329.50
RC 753	3/4	60-115	28 28 1/2 16 1/2	12 1/2	Yes	\$399.50
		60-230				\$409.50
RC 103	1	60-230	26 36 1/2 16 1/2	12	Yes	\$459.50

Mitchell

Mitchell Mfg. Co., 2525 N. Clybourn Ave., Chicago 14, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
M-133	1/2	60-115	22 1/2 27 1/2 13 1/2	12 1/2	Yes	\$229.95
M-123	1/2	60-115	22 1/2 27 1/2 13 1/2	12 1/2	Yes	\$299.95
M-343	3/4	60-115	28 16 30	13 1/2	Yes	\$379.95
M-2303	3/4	60-230	28 16 30	13 1/2	Yes	\$399.95
M-2083	3/4	60-208	28 16 30	13 1/2	Yes	\$459.95
M-1003	1	60-230	28 16 30	13 1/2	Yes	\$469.95
M-12083	1	60-208	28 16 30	13 1/2	Yes	\$469.95

Mueller Climatrol

L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee, Wis.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
910-75	3/4	60-220	29 1/2 12 28	8 1/2	Yes	\$425.00

He doesn't worry
about the weather...



... his room conditioner is dependable because
it is equipped with a **TECUMSEH HERMETIC**

Mark Twain said: "Everybody talks about the weather, but nobody does anything about it."

Today people are doing something about the weather—they are air conditioning their offices and homes for better working and living comfort... and if you are one of the manufacturers of these room conditioners, it will more than pay you to investigate Tecumseh's line of hermetics.

Built upon the idea that the refrigeration industry needed a smoother, quieter, more dependable unit, Tecumseh engineers have developed the Tecumseh Single and Twin Cylinder Hermetic Units and Compressors. Free from vibration because they are internally cushioned, these Tecumseh Hermetics bring to the air conditioning industry low-cost, high-capacity condensing units that develop peak performance with minimum size.

If you need a heavy duty compressor that will stand heavy loads under tough conditions, you can rely upon the complete year-in and year-out dependability of Tecumseh.



TECUMSEH PRODUCTS
TECUMSEH, MICH. *Company*

EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICH.

The world's largest
producer of condensing
units for the re-
frigeration industry.

Philco

Philco Corp., C & Tioga Sts., Philadelphia, Pa.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
40-J	1/2	60-115	26 1/2 27 1/2 13 1/2	12 1/2	No	\$230.00
50-J	1/2	60-115	25 1/2 27 1/2 13 1/2	12 1/2	No	\$280.00
60-J	1/2	60-115	26 1/2 28 1/2 14 1/2	12 1/2	Yes	\$320.00
80-J	3/4	60-115	26 1/2 36 14 1/2	20 1/2	Yes	\$380.00
		60-230				
86-J	3/4	60-115	26 1/2 36 14 1/2	20 1/2	Yes	\$440.00
		60-230				
106-J	1	60-230	27 1/2 38 1/2 14	17 1/2	Yes	\$500.00
186-J	3/4	60-115	37 1/2 19 1/2 29 1/2	25	Yes	\$570.00
		60-230				
1106-J	1	60-115	37 1/2 19 1/2 29 1/2	25	Yes	\$650.00
		60-230				
1204-J	2	60-230	42 1/2 22 1/2 39 1/2	23 1/2	Yes	\$975.00

86-J and 106-J employ reverse cycle and capacity modulation.
All models are available in two colors except the 50-J and 1204-J.
All others are available without capacity modulation.

Quiet Kool

Quiet-Heat Mfg. Corp., 46 Oliver St., Newark 5, N. J.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
G3A	1/2	60-115	25 1/2 19 1/2 15	11 1/2	Yes	\$199.75
G5E	1/2	60-115	28 1/2 25 1/2 14 1/2	9 1/2	No	\$279.95
G7D	3/4	60-115	28 1/2 30 1/2 14 1/2	14 1/2	Yes	\$345.00
G7D	3/4	60-230	28 1/2 30 1/2 14 1/2	14 1/2	Yes	\$353.00
G10A	1	60-230	28 1/2 30 1/2 14 1/2	14 1/2	Yes	\$396.50

Rapidayton

The Dayton Pump & Mfg. Co., Dayton, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
W-8210	3/4	60-115	26 1/2 29 1/2 16 1/2	13 1/2	Yes	\$399.50

R. C. A.

Radio Corp. of America, RCA Victor Div., Camden, N. J.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
AC-333-B21	1/2	60-115	13 1/2 22 1/2 26 1/2	10 1/2	Yes	\$229.50
AC-350-B21	1/2	60-115	13 1/2 22 1/2 26 1/2	10 1/2	Yes	\$229.50
AC-375-S-B21	1/2	60-115	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$379.50
AC-375-S-B23	3/4	60-115	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$379.50
AC-375-S-B33	3/4	60-230	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$379.50
AC-375-D-B21	3/4	60-115	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$399.50
AC-375-D-B23	3/4	60-115	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$399.50
AC-375-D-B33	3/4	60-230	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$399.50
AC-3100-B33	1	60-230	15 1/2 26 1/2 27 1/2	13 1/2	Yes	\$469.50
AC-3100-C-3	1	60-230	38 1/2 37 20 1/2		No	St.—\$599.50 Mah.—\$679.50 Bl.—\$699.50 St.—\$799.50 Mah.—\$879.50 Bl.—\$899.50
AC-3150-C-3	1	60-230	38 1/2 37 20 1/2		No	

Remington

Remington Air Conditioning, Willey St., Auburn, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
4	1/2	60-115	22 1/2 26 1/2 13 1/2	9 1/2	Yes	\$229.95
6	1/2	60-115	22 1/2 26 1/2 13 1/2	9 1/2	Yes	\$329.95
8	3/4	60-115	26 1/2 27 1/2 15 1/2	13 1/2	Yes	\$379.95
		60-230				
D8	3/4	60-115	26 1/2 27 1/2 15 1/2	13 1/2	Yes	\$399.95
		60-230				
11	1	60-230	26 1/2 26 1/2 15 1/2	12 1/2	Yes	\$469.95
10 (Console)	1	60-115	37 21 38	21	No	\$679.50
		208 or 230 V 50 or 60 C				
10C Leader	1	60-115	34 1/2 19 37 1/2	21	No	\$599.50
		208 or 230 V 50 or 60 C				
12 (Console)	1 1/2	208 or 230 V 50 or 60 C	37 21 38	21	No	\$879.50
12 Leader	1 1/2	208 or 230 V 50 or 60 C	34 1/2 19 37 1/2	21	No	\$699.50

Rheem

Rheem Mfg. Co., 7600 South Kedzie Ave., Chicago, Ill.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
2050-50	1/2	60-115	28 1/2 26 1/2 16 1/2	10	Yes	\$299.00
2050-75	3/4	60-115	28 1/2 26 1/2 16 1/2	10	Yes	\$379.00
2050-75A	3/4	60-230	28 1/2 26 1/2 16 1/2	10	Yes	\$389.00
2050-100	1	60-230	28 1/2 26 1/2 16 1/2	10	Yes	\$459.00

Servel and Wonderair

Servel, Inc., Evansville 20, Ind.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
DW-93-1	1/2	60-115	27 1/2 31 1/2 15 1/2	15 1/2	No	\$329.95
DW-93-2	3/4	60-230	27 1/2 31 1/2 15 1/2	15 1/2	No	\$336.95
DW-93-5	3/4	60-208	27 1/2 31 1/2 15 1/2	15 1/2	No	\$339.95
DW-123-2	1	60-230	27 1/2 31 1/2 15 1/2	15 1/2	No	\$399.95
DW-123-5	1	60-208	27 1/2 31 1/2 15 1/2	15 1/2	No	\$409.95
RAC-93-1	3/4	60-115	27 1/2 31 1/2 15 1/2	15 1/2	No	\$329.95
RAC-93-2	3/4	60-230	27 1/2 31 1/2 15 1/2	15 1/2	No	\$336.95
RAC-93-5	3/4	60-208	27 1/2 31 1/2 15 1/2	15 1/2	No	\$339.95
RAC-123-2	1	60-230	27 1/2 31 1/2 15 1/2	15 1/2	No	\$399.95
RAC-123-5	1	60-208	27 1/2 31 1/2 15 1/2	15 1/2	No	\$409.95

Sterling

Sterling Air Conditioning Corp., 2222 S. Boulevard, Charlotte, N. C.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
SW-34	3/4	60-115 or 50 cy	28 1/2 26 1/2 16 1/2	10	Yes	\$399.50

Typhoon

Typhoon Air Conditioning Co., Inc., 794 Union St., Brooklyn 15, N. Y.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
T G3 A	1/2	60-115	26 1/2 19 1/2 15	11 1/2	No	\$239.75
T G5 E	1/2	60-115	28 1/2 25 1/2 14 1/2	9 1/2	No	\$329.75
T G7 D	3/4	60-115	28 1/2 30 1/2 14 1/2	14 1/2	Yes	\$399.95
		50 or 60-230				
T G10 A	1	60-230 or 50 cy.	28 1/2 30 1/2 14 1/2	14 1/2	Yes	\$489.39

Universal

Universal Major Elec Appliance Co., Box 119, Lima, Ohio

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
50-53B	1/2	60-110	26 1/2 29 1/2 16 1/2	11 1/2	Yes	\$329.95
75-53B	3/4	60-110	26 1/2 29 1/2 16 1/2	11 1/2	Yes	\$399.95
60-CT*	3/4	60-110	13 8 14	8	No	\$329.95
*Casement Type			(Inside Room)			
			14 1/2 19 1/2 13 1/2**			

** Condensing unit outside room

UsAirco

United States Air Conditioning Corp., Como Ave. Southeast at 33rd St., Minneapolis 14, Minn.

Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)— Width Depth Height	Proj. In Room	Pump Out (Yes or No)	Suggested List Price
7950D1	1/2	60-60-115	26 1/2 28 1/2 16	13	No	\$339.95
7975D2	3/4	60-60-115	26 1/2 28 1/2 16	13	No	\$394.95
7975D4	3/4	60-230	26 1/2 28 1/2 16	13	No	\$404.95
7910D8	1	60-230	26 1/2 28 1/2 16	13	No	\$449.95

Room Air Conditioner Models

Victor

Victor Products Corp., 901 Pope Ave., Hagerstown, Md.									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
RC-75-3	¾	60-115	27	16½	31½	13½	Yes	\$395.35	
RC-75-3	¾	60-115	27	16½	31½	13½	Yes	\$395.35	

Viking

Viking Refrigerators, Inc., 7500 Wilson Ave., Kansas City, Mo.									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
RC-8053	¾	60-115	28	29	15½	12½	Yes	\$299.95	
RC-7553	¾	60-115	28	29	15½	12½	Yes	\$349.95	
RC-10063	1	60-230	28	29	15½	12½	Yes	\$429.95	

Viking

Viking Air Conditioning Corp., 5601 Walworth Ave., Cleveland 2, Ohio									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
340	¾	60-110	27½	30½	16½	8	Yes	\$399.95	

Vornado

O. A. Sutton Corp., 1812 W. Second, Wichita, Kan.									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
50 WAC	¾	60-115	22½	28½	12½	9½	Yes	\$329.95	
75 WAC	¾	60-115	25½	33½	14½	9½	Yes	\$399.95	

Worthington

Worthington Corp., Holyoke, Mass.									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
SW-93-1	¾	60-115	27½	31½	15½	15½	Yes	\$352.00	
SW-93-2	¾	60-230	27½	31½	15½	15½	Yes	\$358.00	
SW-93-5	¾	60-208	27½	31½	15½	15½	Yes	\$361.00	
SW-123-2	1	60-208	27½	31½	15½	15½	Yes	\$417.00	
SW-123-5	1	60-208	27½	31½	15½	15½	Yes	\$420.00	

Yorkaire

York Corp., Roosevelt Ave., York, Pa.									
Model No.	Size (In Hp.)	Cycle and Voltage	—Dimensions (In.)—			Proj. In Room	Pump Out (Yes or No)	Suggested List Price	
			Width	Depth	Height				
WINDOW MODELS									
A30	¾	60-115	26	26½	13½	11½	No	\$229.95	
A50S	¾	60-115	26	27½	14½	12	No	\$279.95	
A50D	¾	60-115	26½	27½	14½	11½	Yes	\$319.95	
A75	¾	60-115	26½	34½	14½	19½	Yes	\$379.95	
		60-208							
A75M	¾	60-230	26½	34½	14½	19½	Yes	\$399.95	
A75MR	¾	60-230	26½	34½	14½	19½	Yes	\$439.95	
		60-115							
A100M	1	60-230	27½	40½	14	18½	Yes	\$459.95	
A100MR	1	60-230	27½	40½	14	18½	Yes	\$499.95	
		60-208							
CONSOLE MODELS—Air Cooled									
A75CM	¾	60-115	37½	19½	27½		Yes	\$519.95	
		60-208							
A75CMR	¾	60-230	37½	19½	27½		Yes	\$559.95	
		60-115							
A100CM	1	60-230	37½	19½	27½		Yes	\$619.95	
		60-208							
A100CMR	1	60-230	37½	19½	27½		Yes	\$659.95	
CONSOLE MODELS—Water Cooled									
151	1½	60-208	42½	22½	39½		No	\$821.00	
		60-230							
201	2	60-208	42½	22½	39½		No	\$975.00	
		60-230							

Air Conditioned Bus Makes Comfortable Field Office for Construction Firm

MIAMI, Fla.—A ¾-ton Philco room air conditioner and a retired city bus have combined to give the Lyons Construction Co. here a field office that is as comfortable as any in a downtown office building.

Field offices are essential to construction companies who need a place on the job to take telephone calls, receive deliveries, keep time records, and do other essential office work.

Generally, the field office is a hastily built shack that is torn down as soon as the job is completed. Or it may be of a more permanent nature and trucked from job to job. Both types are comparatively expensive, and, especially in the Miami area's sub-tropical sun, are torture chambers.

Patrick Lyons, president of Lyons Construction Co., came to the conclusion that more comfortable surroundings would produce better work both by himself and his employees.

So he purchased an obsolete city bus at a bargain price. He painted the outside white to reflect heat and the interior light green. The old seats were removed and plywood desks built in. Asphalt tile was put on the floor and the room air conditioner installed in a side window. Awnings were put over the windows to cut down heat from the sun.

Total cost of remodeling the bus was less than the cost of building or moving a couple of frame office shacks. The new office not only makes a more presentable appearance and is more comfortable to work in, but it can be moved at a moment's notice under its own power.

RIGHT: Window unit protrudes from side of bus which serves as an office in the field.

BELOW: Seats were removed and desks installed to make it a real office on wheels.



Remington Stockholders To Consider Share Split

AUBURN, N. Y.—A special stockholders' meeting has been called for April 14 in Auburn to vote on replacing each of the present \$5 par shares of common stock of Remington Corp. with five shares of \$1 par and to increase the total number of authorized shares from 50,000 to 1,000,000, Herbert L. Laube, president, announced recently.

A letter sent to stockholders notifying them of the meeting also contained a proposal to increase the authorized shares of preferred stock from 2,500 with \$25 par value to 50,000 of \$5 par. The \$25 preferred shares now outstanding are all owned by Esprit of Remington, the corporation's profit sharing plan for employees, and each of these would be exchanged for five shares of the \$5 preferred, Laube said.



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—and here are 4 powerful reasons why:

NEW ENGINE POWER—TEAMED WITH LOWER COSTS! The improved Loadmaster engine with a new high compression ratio of 7.1 to 1, now delivers even more power. This great engine is standard on 5000 and 6000 Series heavy-duty and forward-control models—optional on 4000 Series heavy-duty models. In light- and medium-duty models the Thriftmaster engine offers traditional Chevrolet economy.

NEW STAYING POWER—FOR GREATER DURABILITY! Frames are heavier, stronger, more durable in all 1953 Chevrolet trucks. You'll find greater ruggedness and stamina. You'll find these trucks even brawnier and sturdier than Chevrolet trucks in past years—trucks that have long been famous for those very qualities. And this heavier construction brings new comfort and freedom from fatigue to drivers, too.

NEW BRAKING POWER—FOR QUICKER, SURER, SAFER STOPS! Two types of brakes on 1953 Chevrolet advance-design trucks provide greater stopping power and greater durability. "Torque-Action" brakes are standard front and rear on all trucks up to 4000 Series heavy-duty models. Extra-large "Torque-Action" brakes in front, "Twin-Action" type in rear are on Series 4000, 5000 and 6000 heavy-duty models.

NEW ECONOMY—LOWERS COST OF EVERY TON-MILE HAULED! Expect greater economy with Chevrolet trucks. New and greater stamina with extra gasoline economy cuts operating costs, maintenance costs in heavy-duty models with Loadmaster engine. And these great trucks list for less than comparable models of any other make! Chevrolet Division of General Motors, Detroit 2, Mich.

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

TWO GREAT VALVE-IN-HEAD ENGINES—the Loadmaster or the Thriftmaster—to give you greater power per gallon, lower cost per load. **POWER-JET CARBURETOR**—for smooth, quick acceleration response. **DIAPHRAGM SPRING CLUTCH**—for easy-action engagement. **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **HYPOID REAR AXLE**—for dependability and long life. **TORQUE-ACTION BRAKES**—on light-duty and medium-duty models and on front of heavy-duty models. **TWIN-ACTION REAR BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—for greater holding ability on heavy-duty models. **CAB SEAT**—with double deck springs for complete riding comfort. **VENTI-PANES**—for improved cab ventilation. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—for easier handling. **UNIT-DESIGNED BODIES**—for greater load protection. **ADVANCE-DESIGN STYLING**—for increased comfort and modern appearance.



... but "blue" in milk is something else again. Losses from blue milk are serious to creameries and dairies but can be avoided without danger of "freezing on" by using DOLE Ice-Cels to provide chilled sweet water for cooling raw and homogenized milk and in bottling and storage.

DOLE Ice-Cels require 86% less space than brine tanks; maintain milk below 40° F.; achieve high cooling rate with smaller compressor; and cut power demand and operating costs. For complete information ask for Catalog BE.



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In Canada: Dole Refrigerating Products Limited,
44 Elgin Street, Brantford, Ontario.

Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Blower, Suction-Type Fans for Air-Cooled Condensers

QUESTION:

Will you please explain why a "blowing" type fan is used on quite a few air-cooled units used in beverage coolers, display cases, etc.? I have had occasion to work on some of them and upon checking them over, I have found hot condensers, hot receivers, hot liquid lines, and high head pressures.

On one hermetic unit in particular, on which I found these conditions, and very little air going through the condenser, I replaced the blower fan with a suction fan of the same size, which I happened to have, that fit the fan motor shaft.

At once, my troubles were over; the head pressure went down, and the condenser, receiver, and liquid line cooled off and the running time was much less. That was four

months ago and I have not heard from that customer since.

I ran across another one the other day using a 1/2-hp. unit equipped with a blower fan on the condenser. It runs practically all of the time, condenser, receiver, and liquid lines are excessively hot. All of the electric wiring is in bad shape, apparently due to the excessive temperature.

I turned the fan around to see if it would suck air through the condenser, but it still blows, and everything still runs hot. The condenser is clean.

ANSWER:

In the two cases you refer to, the condenser is probably too close to a wall or other fixture, so that the circulation of air is bad. There may be other causes also, but from your description, it appears that pulling the unit away from the wall should help a great deal.

If this is impractical, or what is even more unlikely, if you cannot turn the fixture around, you could perhaps improve operation by using a suction fan instead of the blower fan.

The choice between the blower type or suction type condenser fan on an air-cooled unit is governed by several factors that may more strongly influence the decision than any actual inherent advantage of either the blower or suction fan.

A fixture manufacturer usually finds it better to use one make of condensing unit on all or most of his models, for it simplifies his buying and stocking of units, he probably buys at a better price, he has a better chance on deliveries, and last but not least, it simplifies his field service and parts problems. Thus, the fixture manufacturer is somewhat limited by the models available from his condensing unit supplier.

Service accessibility plays a part also. For example, a self-contained display case with the unit in a compartment on one end of the case may have the service valves and the control, accessible from only one side of the unit. Using a suction fan might require turning the side having the service valves and control on it, toward the fixture and away from the accessible end of the fixture where the removable service panel is located.

Therefore, the case manufacturer may choose a blower-type fan so that the unit can be placed in the compartment in such a position that the service valves and the control are accessible for service.

FIXTURE MANUFACTURER SOMETIMES LIMITED IN CHOICE

Where to blow the air often presents a problem. If a suction fan is used, its exhaust may blow out into an aisle on to the customers, so the manufacturer may choose to blow it out the back with a blower-type fan. It is not always an easy decision for the fixture manufacturer, and he may have to compromise between the ideal and what appears to be the most practical solution.

Moreover, the user may disregard the fixture manufacturer's instructions as to air circulation. Despite the manufacturer's instructions, the user may cause the fixture to be pushed tightly against a wall, or up against another fixture.

It must be admitted, however, that all fixture manufacturers do not always use the best of judgment in all their designs. They may underestimate the undesirable effects of too little room for air circulation or of blowing the condenser air against an adjacent wall. Of they may be over-influenced by cost considerations.

SUCTION FAN HAS ADVANTAGES

The relative merits of suction versus blower fans on air-cooled units can get one plenty of arguments, one way or the other. Nevertheless, the advantages of the suction fan appear to outweigh those of the blower fan.

The suction fan tends to create a partial vacuum on the fan side of the condenser, causing the air on the other side to flow through the fan to overcome this partial vacuum. In doing this, the air beyond the condenser tends to flow rather uniformly; that is, it tends to flow through the entire face of the condenser about the same—the corners of the condenser as well as the central part.

On the other hand, the blower fan tends to blow air through a doughnut shaped area of the condenser. It is characteristic of a propeller-type fan that it does not move much air around the inner ends of the fan blades nearest the shaft, and of course, the blower fan moves little air through the corners of the condenser.

Thus, although the blower fan may move as many cubic feet of air per minute through the condenser as a suction fan of equal size, the air is not evenly distributed.

The design of the blades has an important bearing on the air distribution. Some types of blades move more air through the area around the shaft than others, and consequently get better distribution of air through the condenser.

SHROUD ESPECIALLY EFFECTIVE WITH SUCTION FAN

For the suction fan to be most effective, the condenser should be equipped with a shroud; otherwise, the fan gets some of its air from the fan side of the condenser, instead of drawing it all through the condenser.

If a shroud is not used, the suction fan should be very close to the condenser in order to minimize the amount of air that will slip in from the sides. Even then, the corners do not get much air through them, and the air distribution through the central part of the condenser is not uniform.

With a shroud, the suction fan can be placed some distance from the condenser, thus giving a uniform distribution of air through the condenser, thereby reducing "hot spots" and resulting in a minimum condensing temperature and head pressure.

Another advantage of the suction fan is that the air to the condenser is at room temperature, whereas with the blower fan much of the air to the condenser is heated somewhat by passing over the hot motor. Naturally, the cooler the air to the condenser, the lower is the head pressure.

CONDENSER NEARER A WALL WITH SUCTION FAN

With the suction fan, the condenser can be placed much nearer a wall than with the blower fan. With the suction fan, the air flows in to the condenser from all sides; whereas with the blower fan, an air pressure (or "static pressure" as it is called) is created between the condenser and the wall.

The static pressure reduces the capacity of the fan in cubic feet per minute of air through the condenser. Also, it may even result in some recirculation of heated air back through the corners of the condenser. In applications in which the condenser must be up close to a wall, the suction fan is almost a "must."

REVERSING THE FAN

As the reader found, just turning a blower fan around does not make it a suction fan. If it is a straight flat blade, turning it around will have little or no effect. Most fans have curved blades, so they should not be turned around, for they will then blow less air than before.

On some units it is practical to turn the fan around, if the direction of rotation of the motor can be

reversed. This will convert the blower fan to a suction fan. If this is done, the fan should be quite close to the condenser, unless it is shrouded.

Converting a blower fan to a suction fan by turning it around and reversing its direction of rotation is not often practical, because of one or several of the following reasons.

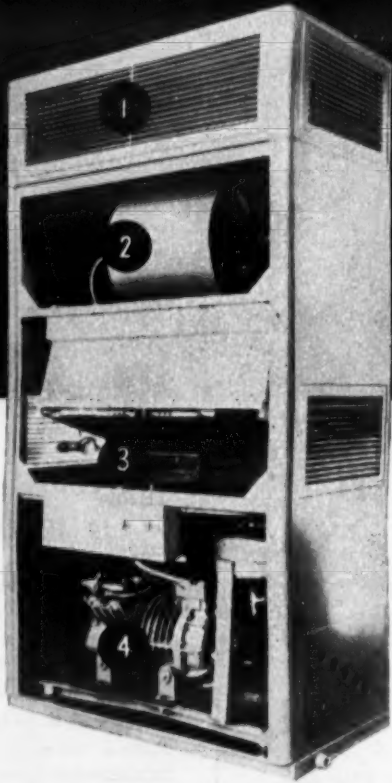
1. The motor may not be reversible.
2. It may not be possible to turn the fan around on the fan motor shaft.
3. The overhang of the blades may strike the belts or the condenser.
4. Perhaps the compressor cannot be operated in the opposite direction of rotation without lubrication trouble—especially if it uses an oil pump, slinger, or oil dippers on the rods.
5. Some seals cannot be reversed.
6. The belts may not operate properly in the reversed direction.
7. The motor may overheat, because of the hot air from the condenser blowing over it. This may be partially or entirely offset by the fact that much more air is blowing over it, and by lower head pressures which reduce the load on the motor.
8. There may not be an outlet for the air from the suction fan; that is, it may build up a static pressure against a wall of the compartment. Air to a fan can come in from the sides, but from a fan, the air flows in approximately a straight line directly away from the fan.

Notwithstanding all of the above discussion as to why a blower fan probably cannot be converted to a suction fan, or even why a suction fan should not be substituted for a blower fan (as per items 2, 3, 7, and 8), there are many installations on which a suction fan can be put on in place of a blower fan. These points are not mentioned to discourage the use of a suction fan, but simply to point out some of the things that must be considered before making a change from blower to suction fan.

The proof of the pudding is said to be in the eating thereof. So if replacing the blower fan with a suction fan results in lower head pressures, cooler liquid refrigerant, and better over-all performance, then by all means, the change should be made. There are undoubtedly many installations in the field on which changing from blower type to suction type condenser fan would be beneficial.

AIR CONDITIONING UNITS HAVE TO BE RELIABLE...

Every time you recommend an air conditioning unit, you lay your reputation on the line. The unit has to meet the requirements of the job in each and every case. With BAKERAIRE, constant, accurate output is assured by balanced functioning of all parts.



- 1 Plenum diffuses air in any direction by simple adjustment of louvers.
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- 3 The Coil Section, in which a 5 row coil has ample surface to remove moisture and heat, balanced with
- 4 The quiet efficient Compressor Section where the controls are integrated for automatic operation and complete safety protection. For final protection the interlock relay prevents short cycling of the compressor unit.

These features cut installation and maintenance time costs:

All water connections are run to an external utility panel, eliminating inconvenient internal connections. All electrical connections are integrated in one panel in front of the unit.

All functional parts are easily accessible through the removable side panel.

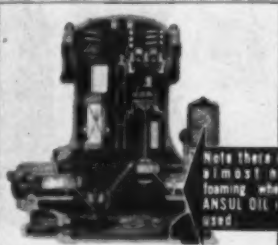
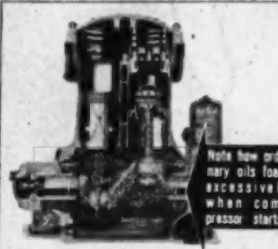
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When a compressor starts, the surge of the refrigerant causes ordinary oils to foam. This results in a loss of oil from the compressor and causes other harmful effects in the system. ANSUL NON-FOAMING OIL eliminates the problems which result from foaming and thereby insures maximum lubricating efficiency.

NOW . . . MORE THAN EVER . . . ANSUL is the FINEST REFRIGERATION OIL at any price! In addition to the features which have made it outstanding in the past . . . High Lubricity, High Stability, Low Moisture and Low Wax . . . a new and vital improvement has been made . . . ANSUL OIL IS NOW PROCESSED TO PROVIDE NON-FOAMING CHARACTERISTICS . . . a distinct advancement in the science of refrigeration lubrication.

Here are some of the advantages provided by the NON-FOAMING characteristic of ANSUL OIL:

- INSURES MAXIMUM LUBRICATION.
- IMPROVES EVAPORATOR EFFICIENCY.
- PREVENTS DAMAGE TO COMPRESSOR VALVES.
- REDUCES DANGER OF PLUGGED CAPILLARIES.
- REDUCES DEPENDENCY ON OIL SEPARATORS.

Ansul Refrigeration Oils have been machine tested for over 4500 consecutive hours.

ANSUL is the LARGEST SELLING REFRIGERATION OIL sold through Refrigeration Wholesalers . . . EXCLUSIVELY.

Get the complete story on Ansul Non-Foaming Oil. Write for additional information.



ANSUL
Chemical Company

REFRIGERATION DIVISION • MARINETTE, WISCONSIN

MANUFACTURERS OF REFRIGERANTS, REFRIGERATION PRODUCTS, INDUSTRIAL CHEMICALS, SPECIAL CHEMICALS AND DRY CHEMICAL FIRE EXTINGUISHERS. - DISTRIBUTORS OF DU PONT "FREON" REFRIGERANTS.

LISTING Complete Home Cooling Systems

Air-O-Matic

Williams Div., Eureka Williams Corp., 1201 E. Bell St., Bloomington, Ill.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
AER-24	2	21 37 47	Optional*	800	Yes	No
AER-36	3	21 37 47	Optional*	1,200	Yes	No
AER-60	5	21 37 47	Optional*	1,200	Yes	No

*Normally not furnished, available as optional extra.
†Specifications not yet released.

American-Standard Mayfair

American Radiator & Standard Sanitary Corp., P.O. Box 1226, Pittsburgh 30, Pa.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
HC 200	2*	34 37 45	No	840	Yes	Yes
HC 300	3**	34 37 45	No	1,260	Yes	Yes

*Two one horsepower circuits used.
**Three one horsepower circuits used.

Armstrong

Armstrong Furnace Co., 851 W. Third Ave., Columbus, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
3001A-T2	2	24 21 48	No	800	Yes	No
3001A-T2	2	24 21 62	Yes	800	Yes	No
3001A-T3	3	24 21 48	No	1,200	Yes	No
3001A-T3	3	24 21 62	Yes	1,200	Yes	No

Brunner

Brunner Mfg. Co., 1821 Broad St., Utica, N. Y.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
BAC 20-1-D	2	35 25 67	Yes	800	Yes	No
BAC 30-1-D	3	35 25 71	Yes	1,200	Yes	No
BAC 50-1-D	5	44 26 76	Yes	2,000	Yes	No
BAC 75-1-D	7 1/2	51 30 83	Yes	3,000	Yes	No
BAC 100-1-D	10	57 30 87	Yes	4,000	Yes	No
BAC 20-1-R	2	35 25 52	No	800	Yes	No
BAC 30-1-R	3	35 25 55	No	1,200	Yes	No
BAC 50-1-R	5	44 26 59	No	2,000	Yes	No
BAC 75-1-R	7 1/2	51 30 67	No	3,000	Yes	No
BAC 100-1-R	10	57 30 70	No	4,000	Yes	No

Heating must be provided by regular hot air furnace, in style "R," for style "D" steam coil could be utilized in duct system.

Bryant

Bryant Heater Div., A.G.E., Inc., 17825 St. Clair Ave., Cleveland, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
2-590	2	25 28 63	Yes	800	Yes	Yes
3-590	3	27 28 63	Yes	1,200	Yes	Yes
5-590	5	33 28 68	Yes	2,000	Yes	Yes

*At ASRE rating conditions and at rated output capacities of 2, 3, 5 tons of cooling, respectively.

Chrysler Airtemp

Chrysler Airtemp, 1600 Webster St., Dayton 1, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
1502	2	35 20 59	No	800	Yes	No
1503	3	35 20 59	No	1,200	Yes	No
1505	5	35 20 59	No	2,000	Yes	No
1508	8	48 20 59	No	3,000	Yes	No
Air Cooled Units						
1102	2	40 22 40	Yes	1,500	Yes	No
1103	3	44 22 44	Yes	2,250	Yes	No

Coleman Blend-Air

The Coleman Co., Inc., 250 North St. Francis, Wichita, Kan.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
776	2	29 24 58	Yes	550	Yes	Yes
777	3	29 24 58	Yes	800	Yes	Yes
771A	2	33 28 23 1/2	Yes	600	Yes	Yes
772A	3	33 34 23 1/2	Yes	900	Yes	Yes

*Above figures refer to cooling section only. Dimensions do not include data on Coleman remote water-saving condenser.

None of the above units include heating unit. Models 771A and 772A exclusive for use with Coleman "Blend-Air" forced warm air furnace. Models 776 and 777 can be used with Blend-Air furnaces as well as with most conventional forced air furnaces.

Conco

Conco Engineering Works, Mendota, Ill.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
RC-1A-3	2	22 22 36	No	750	Yes	Yes
RC-1A-3	3	22 22 36	No	1,000	Yes	Yes
RH-1A-2	2	22 36 46	Yes	900	Yes	Yes
RH-1A-3	3	22 36 46	Yes	1,000	Yes	Yes

Cool-Ette

Cool-Ette, Inc., 20080 Jas. Couzens Hwy., Detroit 35, Mich.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
1-R200B	2	25 21 40 1/2	Optional	800	Yes	No
1-R300B	3	25 21 40 1/2	Optional	1,200	Yes	No

Curtis

Curtis Mfg. Co., Refrigerating Machine Div., 1905 Kienlen Ave., St. Louis 20, Mo.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
2 RP	2	40 23 61 1/2	Optional	800	No	No
3 RP	3	40 23 61 1/2	Optional	1,200	No	No

Fridg-A-Fire

Automatic Firing Corp., 4417 Oleatha Ave., St. Louis, Mo.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
FF150-3D	3	39 45 85	Yes	1,500	Yes	Yes
FF150-5D	5	39 45 85	Yes	2,000	Yes	Yes

Both models have heating section enclosed in same cabinet and are obtainable with gas or oil fired heating sections.

Frigidaire

Frigidaire Div., General Motors Corp., 300 Taylor St., Dayton 1, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
ACS-3	3	36 44 50	Yes	1,300	Yes	Yes
ACS-5	5	36 44 50	Yes	2,000	Yes	Yes

(Continued on Following Page)

York Form Simplifies Figuring Residential Cooling Job Where Forced Warm Air Heating Plant Is Satisfactory

DETROIT—A simplified form designed to take the mystery out of figuring a residential air conditioning job was introduced to its air conditioning distributors recently by York Corp.

The form is designed for use on homes already equipped with forced warm air heating systems and which are doing a satisfactory heating job.

The four-page form provides a worksheet for the job survey and equipment selection, two graph sections for drawing the floor plan and an equipment location blow-up, 12 diagrams of different summer air conditioner arrangements, and an equipment selection table.

The table provides, for given floor areas and given temperature differentials, the minimum c.f.m., design c.f.m., minimum fan wheel diameter, fan motor horsepower, conditioner horsepower, and connecting ductwork square inches.

The information in this table, according to John Roth, commercial sales manager for York's central district, has been worked out on the basis of past experience and profes-

sional engineering data to give the same results in terms of equipment selection as one would get by taking in all possible factors affecting the heat load.

In making the job survey, the salesmen need only sketch the floor plan of the area to be conditioned, take data off the furnace name plate, determine furnace fan wheel diameter and motor horsepower, make a dimension sketch of space available for the equipment, check the utilities for power and water supply, disposal, and drain, and check the size and number of supply air outlets and return system grilles.

With this information, the remainder of the job is straight addition, subtraction, and multiplication—using the data furnished—to determine the size of the conditioned area, the TD range, final supply and return c.f.m., required fan wheel diameter, required fan motor horsepower, and final conditioner selection.

"To figure a residential air conditioning job with this form," said Roth, "all a man needs is a 100-ft. rule, a pencil, a piece of paper, and a lot of common sense."

TABLE "A"

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
*Floor Area (Sq. Ft.)	15°-20° TD	20°-25° TD	C.f.m.	Design C.f.m.	Minimum Fan Wheel Diameter	Minimum Motor Hp.	Conditioner Connecting Ductwork Sq. In.
475	375	310	340	340	7"	1 1/2	110
625	500	400	450	450	7"	1 1/2	135
950	750	580	670	670	9"	2	185
1250	1000	750	880	880	9"	2	215
1900	1500	1050	1310	1310	10"	3	325
3100	2500	1500	2100	2100	12"	5	432

*For house with roof area insulated and minimum inside design temperature of 78° F.



NEW '53 US AIRCO WINDOW TYPE ROOM AIR CONDITIONER

Thermostatic Control At No Extra Cost! 5 Year Warranty and Labor Allowance! 3 Sizes: 1/2 h.p., 3/4 h.p., 1 h.p. Smart, Compact Cabinet! Adjustable Louvers!

For details write Dept. AC 453

UNITED STATES AIR CONDITIONING CORPORATION MINNEAPOLIS 14, MINNESOTA



TINY NEW CENTRIFUGAL PUMPS

Serving wide range of applications. Liquid transfer, machine tool coolant, plating baths, air conditioning, chemical handling, abrasive solutions, domestic and commercial appliances.

Built on pedestal for belt drive as shown, also close coupled to electric motor. Materials vary with pump use - synthetic rubber bodies, stainless steel shafts are standard.

Engineering assistance on O.E.M. applications. Inquiries invited.

THE GORMAN-RUPP COMPANY HANFIELD, OHIO

"I found the key to sales success in SERVEL All-Year AIR CONDITIONING"

"When I entered this field I looked for a line that would really open up the market with sales! I found the magic key in Servel!"

"I investigated other lines—I looked into their profit possibilities—and I found that none cover the market so well or have so many outstanding sales advantages."

"Servel has a line that meets every need—and already anticipates the immense market ahead. Servel not only provides superior equipment for average houses; commercial structures, big and small; and all types of industries . . . but now also offers a remarkable new small unit for low-cost homes."

Sell Servel and profit by all these advantages:

- SERVEL uses the most economical heat source**
For both heating and cooling you can use gas or oil for home installations . . . and gas, oil, waste heat or steam for commercial and industrial jobs.
- SERVEL lasts longer with less upkeep**
With no moving parts in either the heating or cooling unit, there is nothing to vibrate, cause noise, or wear. You are assured of minimum service needs.
- SERVEL covers the market with a complete line**
The Servel dealer can provide the right air-conditioning equipment for practically any kind of residential, commercial or industrial job in his community.
- SERVEL provides powerful sales helps**
Servel backs the dealer with the most intensive and forceful advertising, merchandising and sales promotion program in this entire field!

Servel, maker of the world's most popular air conditioner, offers you an unparalleled opportunity! Mail the coupon today for complete information!

says TOM HERRING of
Tom Herring, Inc., Beaumont, Texas



The 3-ton unit heats and cools with gas or oil

MAIL THIS COUPON NOW!

SERVEL, INC., Dept. AC-4, Evansville 20, Ind.

Tell me more about the money-making possibilities of Servel Air Conditioning equipment.

Name _____

Firm _____

Street _____

City _____ Zone _____ State _____

Servel
the name to watch for great advances in—
AIR CONDITIONING REFRIGERATION

Connor Reissues 'Air Conservation Engineering'

DANBURY, Conn.—First published in 1944, "Air Conservation Engineering," a factual appraisal of the value of purifying air, has recently been reissued by Connor Engineering Corp. here.

While retaining and elaborating the basic principles of this science, the contents have been completely revised to include the latest developments and application methods. Essentially a reference work this book outlines air purification in theory and practice, cites conditions as they are met and overcome, and provides exhaustive data, tables, and charts, helpful to the engineer in both planning an application and estimating its value.

Among the additions is a discussion of air purification in refrigerated storage as a means of retarding the metabolism of fruits and vegetables, the inhibition of specific tissue diseases, protection of foods against organic decay, and the preservation of natural flavors.

A section of catalytic combustion covers this new method of controlling odors in high concentration and at high temperature by a process which converts the odorants to moisture and carbon dioxide.

Much material useful in designing heating and cooling systems is also included. Henry Sleik, vice president, and Dr. Amos Turk, research director of the Connor Corp. are the authors. Profusely illustrated and handsomely printed and bound (8½ by 11 in., 76 pp.) the price is \$5. Available from Connor Engineering Corp., Danbury, Conn.

Self-Contained Home Cooling Systems

Carrier

Carrier Corp., Syracuse, N. Y.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
38C2	2	38	28	62	Yes	630	Yes	Yes
38B4	3	52	43	70	Yes	810	Yes	Yes
38B6	5	52	43	70	Yes	1,080	Yes	Yes
38B8	7½	60	43	70	Yes	1,350	Yes	Yes
50K2	2	36	21	39	Optional	1,070	Yes	Yes
50K4	3	41	22½	80½*	Yes	1,350	Yes	Yes
50K6	5	41	22½	90½*	Yes	2,000	Yes	Yes
50K8	7½	48	30¼	102*	Yes	2,000	Yes	Yes

Heating section included with "38" series, but not with "50" series of models.

*With plenum.

General Electric

General Electric Co., 5 Lawrence St., Bloomfield, N. J.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
RA20G10	2	39¼	30¼	55	Yes	630	Yes	Yes
RA20G20	2	42¼	30¼	55	Yes	810	Yes	Yes
RA20G25	2	46¼	30¼	55	Yes	1,080	Yes	Yes
RA20G30	2	50¼	30¼	55	Yes	1,350	Yes	Yes
RA30G20	3	42¼	30¼	55	Yes	1,070	Yes	Yes
RA30G25	3	46¼	30¼	55	Yes	1,350	Yes	Yes
RA30G30	3	50¼	30¼	55	Yes	1,350	Yes	Yes
RA50G25	5	50¼	30¼	55	Yes	2,000	Yes	Yes
RA50G30	5	54¼	30¼	55	Yes	2,000	Yes	Yes
RA50G40	5	64¼	30¼	55	Yes	2,000	Yes	Yes
RA20B15	2	42¼	30¼	55	Yes	800	Yes	Yes
RA20B20	2	46¼	30¼	55	Yes	960	Yes	Yes
RA20B30	2	66¼	30¼	55	Yes	1,350	Yes	Yes
RA30B15	3	42¼	30¼	55	Yes	1,100	Yes	Yes
RA30B20	3	46¼	30¼	55	Yes	1,200	Yes	Yes
RA30B30	3	66¼	30¼	55	Yes	1,350	Yes	Yes
RA50B20	5	50¼	30¼	55	Yes	2,000	Yes	Yes
RA50B30	5	70¼	30¼	55	Yes	2,000	Yes	Yes
RA50B40	5	74¼	30¼	55	Yes	2,000	Yes	Yes
FE20J	2	21	30¼	55	Yes	800	Yes	No
FE30J	3	21	30¼	55	Yes	1,200	Yes	No
FE60J	5	25	30¼	55	Yes	2,000	Yes	No

Type RA units are complete year-round air conditioners and include heating system as part of cabinet.

Iron Fireman and Petro

Iron Fireman Mfg. Co., 3170 West 106th St., Cleveland 11, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
C-20	2	22	37	47½	No	...	Yes	Optional
C-30	3	22	37	47½	No	...	Yes	Optional

Hupp

Hupp Corp., 1250 West 76th St., Cleveland 2, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
H-20	2	37	22	47½	Optional	750-800	No	No
H-30	3	37	22	47½	Optional	1000-1200	No	No
H-50	5	42	25	53	Optional	1900-2000	No	No
H-75	7½	42	25	53	Yes	2800-3000	No	No
HZ 2	2	58	21	21	Optional	750-800	No	No
HZ 3	3	58	21	21	Optional	1000-1200	No	No

The Hupp Corp. manufactures the above residential cooling system exclusively for warm air furnace manufacturers.

Janitrol

Surface Combustion Corp., 2375 Dorr St., Toledo 1, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
SAC24-35	2	26¼	26	60¼	Yes	800	Yes	Optional
SAC36-35	3	26¼	26	60¼	Yes	1,200	Yes	Optional

Kauffman

Kauffman Air Conditioning Co., 4505 Olive St., St. Louis, Mo.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
20	2	36	22½	84	Yes	800	Yes	Yes
30	3	37	22½	86	Yes	1,250	Yes	Yes
50	5	37	22½	88	Yes	2,000	Yes	Yes
75	7½	37	22½	88	Yes	3,000	Yes	Yes
100	10	74	36	80	Yes	4,000	Yes	Yes
150	15	84	36	84	Yes	4,700	Yes	Yes

All models can be equipped with steam or hot water coils.

Lennox

Lennox Furnace Co., Marshalltown, Iowa

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
Cooling and Heating								
GAY2/3	2 @ 1½	52½	41½	72½	Yes	1,500	Yes	Yes
GAY2/4½	1 @ 3	52½	41½	72½	Yes	1,800	Yes	Yes
Cooling only								
GAY2/6	2 @ 3	52½	41½	72½	Yes	2,400	Yes	Yes
SC2/3	2 @ 1½	24¼	41¼	44¼	No	1,500	Yes	No
SC2/4½	1 @ 1½	24¼	41¼	44¼	No	1,800	Yes	No
SC2/6	2 @ 3	24¼	41¼	44¼	No	2,400	Yes	No
CHL-2	2	27	34¼	15¼	No	800	Yes	No
CHL-3	3	27	34¼	15¼	No	1,200	Yes	No
CSL-2	2	40	24	18¼	No	800	Yes	No
CSL-3	3	40	24	18¼	No	1,200	Yes	No

Lipman Convertible

Lipman Refrigeration Div., Yates-American Machine Co., Beloit, Wis.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
LH 200	2	36	21	42	Optional	800	Optional	No
LH 300	3	36	21	42	Optional	1,200	Optional	No
LH 500	5	46	29	50½	Optional	2,000	Optional	No

Luxaire

The C. A. Olsen Mfg. Co., Elyria, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
2-SC	2	22	37	48	No	...	Yes	No
3-SC	3	22	37	48	No	...	Yes	No
5-SC	5	(In development)						
75-SC	7½	(In development)						

Marvail

Muncie Gear Works, Inc., Muncie, Ind.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
406E	3	46	43	72	Yes	1,500	Yes	No
406E	5	55	43	72	Yes	2,000	Yes	No
407B	7½	63	49	78	Yes	3,000	Yes	No
408B	10	63	49	84	Yes	4,000	Yes	No

The above units are all heat pump systems.

Moncrief

The Henry Furnace Co., Medina, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
2-SC	2	22	37	48	No	...	Yes	No
3-SC	3	22	37	48	No	...	Yes	No
5-SC	5	(In development)						
75-SC	7½	(In development)						

Mueller Climatrol

L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee, Wis.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
903-21	2	28	23½	46	No	...	Yes	No
903-23	2	28	23½	46	No	...	Yes	No
903-31	3	36	27¼	46	No	...	Yes	No
903-33	3	36	27¼	46	No	...	Yes	No
903-51	5	40	27¼	50	No	...	Yes	No
903-53	5	40	27¼	50	No	...	Yes	No
903-73	7½	46	27¼	54	No	...	Yes	No
904-21D	2	28	23½	70	Yes	800	Yes	No
904-23D	2	28	23½	70	Yes	800	Yes	No
904-31D	3	36	27¼	78	Yes	1,200	Yes	No
904-33D	3	36	27¼	78	Yes	1,200	Yes	No
904-51D	5	40	27¼	80	Yes	2,000	Yes	No
904-53D	5	40	27¼	80	Yes	2,000	Yes	No
904-73D	7½	46	27¼	82	Yes	3,000	Yes	No

Nevinger

Nevinger Mfg. Co., Inc., 224 E. Harris, Greenville, Ill.

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
SCF-2	2	36	22	60	Optional	800	Optional	No
SCF-3	3	36	22	60	Optional	1,200	Optional	No
SCF-5	5	46	24	60	Optional	2,000	Optional	No
SCF-7½	7½	48	26	66	Optional	3,000	Optional	No

Niagara

The Forest City Foundries Co., 2500 West 27th St., Cleveland 13, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
H-20	2	37	22	47½	No	840	Yes	No
H-30	3	37	22	47½	No	1,260	Yes	No
H-50	5	42	25	53	No	2,100	Yes	No
H-75	7½	42	25	53	No	3,150	Yes	No

Norman

Norman Products Co., 1150 Chesapeake Ave., Columbus 12, Ohio

Model No.	Comp. Size (In Hp.)	Width	Depth	Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
Cooling and Heating								
HAC-2	2	50¼	58¼	22	Yes	800	Yes	Yes
HAC-3	3	50¼	58¼	22	Yes	1,200	Yes	Yes
VAC-2	2	46	25	61¼	Yes	800	Yes	Yes
VAC-3	3	46	25	61¼	Yes	1,200	Yes	Yes
Cooling only								
HAC-2	2	50¼	39¼	22	Yes	800	Yes	Yes
HAC-3	3	50¼	39¼	22	Yes	1,200	Yes	Yes
VAC-2	2	46	25	40	Yes	800	Yes	Yes
VAC-3	3	46	25	40	Yes	1,200	Yes	Yes

All above models are available in 5-ton size.

KENNARD WATER SAVERS

Engineered

Announcing the latest addition to the

PACKAGED ECONOMY LINE
RESIDENTIAL—COMMERCIAL—INDUSTRIAL
PACKAGED ECONOMY LINE

AIR COOLED CONDENSER

Kennard planned for quiet operation; incorporating a specially designed air venturi, and a top quality five blade heavy duty fan.

Continuous capacity operation is assured by a generous coil surface and a long lived "V" belt drive.

TWO OTHER EFFICIENT

WATER SAVERS

TO SERVE YOUR PARTICULAR NEEDS



Three Sizes
2, 3 and 5 Tons



Five Sizes
3, 5, 8, 11 and 16 Tons

KT—COOLING TOWERS

EK—EVAPORATIVE CONDENSERS

Self-Contained Home Cooling Systems

Patten

J. V. Patten Co., 550 Dekalb Ave., Sycamore, Ill.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
AC-2	2	26 33 72	Yes	1,200	Yes	Yes
AC-3	3	26 33 72	Yes	1,200	Yes	Yes

Perfection

Perfection Stove Co., 7609 Platt Ave., Cleveland, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
A-2	2	33 26 72	Yes	850	Yes	Yes
A-3	3	33 26 72	Yes	1,200	Yes	Yes

Quiet-Air

Quiet-Air Mfg. Div., 1615 Second Ave., New York 28, N. Y.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
HA-2	2	34 25 35	Optional	800	No	No
HA-3	3	34 25 35	Optional	1,200	No	No

Schnacke

Schnacke, Inc., 1101 N. Governor, Evansville, Ind.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
1-3	3	37½ 27 42	No	..	Yes	No
1-5	5	37½ 27 42	No	..	Yes	No

Servel

Servel, Inc., Evansville 20, Ind.

Model No.	Cooling Capacity (In Tons)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
EB-72-G	2*	27 46 75	Yes	800-1,000	Yes	Yes
DC-96-G	3.3*	51½ 51 73½	Yes	1,200-1,400	Yes	No
(Special)						
DE-96-G	5.4*	66½ 57½ 84½	Yes	2,000-2,800	Yes	Yes
DE-144-G	5.4*	66½ 57½ 84½	Yes	2,000-2,800	Yes	Yes
DC-96-FO	3.3*	51½ 57½ 73½	Yes	1,200-1,400	Yes	No
DE-96-FO	5.4*	66½ 67½ 84½	Yes	2,000-2,800	Yes	Yes
DE-144-FO	5.4*	66½ 67½ 84½	Yes	2,000-2,800	Yes	Yes

*Absorption system.

Sterling

Sterling Air Conditioning Corp., 2222 S. Boulevard, Charlotte, N. C.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
RS-2	2	36 22 45	Yes	800	Yes	No
RS-3	3	36 22 45	Yes	1,200	Yes	No

Thatcher

Thatcher Furnace Co., Center St., Garwood, N. J.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
R20-3	2	38 20½ 63	Yes	800	Yes	No
R20-1	2	38 20½ 63	Yes	800	Yes	No
R30-3	3	38 20½ 63	Yes	1,200	Yes	No
R30-1	3	38 20½ 63	Yes	1,200	Yes	No
R50-3	5	44 22½ 69	Yes	2,000	Yes	No
R50-1	5	44 22½ 69	Yes	2,000	Yes	No
R75-3	7½	48 26½ 77	Yes	3,000	Yes	No
R100-3	10*	62 27 78	Yes	4,000	Yes	No

*(Dual 5)

Typhoon

Typhoon Air Conditioning Co., Inc., 794 Union St., Brooklyn 15, N. Y.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
#30*	2	35½ 22½ 66	Yes	800	Yes	Not required
#50*	3	35½ 22½ 66	Yes	1,200	Yes	Not required
#75*	5	42 21½ 78	Yes	2,000	Yes	Not required
#100*	7½	42 21½ 78	Yes	2,800	Yes	Not required
#120*	7½	53 24½ 79	Yes	3,800	Yes	Not required
#150*	10	53 24½ 79	Yes	4,900	Yes	Not required
#225*	15	63 33 95	Yes	6,000	Yes	Not required
#300*	20	63 33 95	Yes	8,000	Yes	Not required
*Heat Pump						
2-UP-SW†	2	29½ 28½ 80	Yes	800	Yes	Not required
3-UP-SW†	3	29½ 28½ 80	Yes	1,200	Yes	Not required
2-CF-SW†	2	29½ 28½ 90½	Yes	800	Yes	Not required
2-CF-SW†	2	29½ 28½ 90½	Yes	800	Yes	Not required
3-CF-SW†	3	29½ 28½ 90½	Yes	1,200	Yes	Not required
2-SS-SW†	2	40 28 72	Yes	800	Yes	Not required
3-SS-SW†	3	40 28 72	Yes	1,200	Yes	Not required
3-BB-SW†	3	37 49 70	Yes	1,200	Yes	Not required
5-BB-SW†	5	37 49 70	Yes	2,000	Yes	Not required

†Gas—Oil

Unitaire

Westinghouse Electric Corp., Air Conditioning Div., Hyde Park, Boston 36, Mass.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
RU-31	3	28½ 21½ 56½	Optional	1,200	No	No
RU-51	5	35½ 25½ 64½	Optional	2,000	No	No

IMPORTANT EXCHANGE PLAN TO REFRIGERATION & AIR CONDITIONING FIRMS

Being that your type of service is always of an emergency nature and in order for you to render to your customers your usual quick and dependable service, we have set up a complete ELECTRIC MOTOR EXCHANGE PLAN, exchanging all types, sizes, A.C., D.C. and 3-phase electric motors. We also have for immediate delivery a stock of NEW and REBUILT motors.

"LET US BE YOUR STOCKROOM"

For full particulars regarding our service plan, write on your letterhead and request Bulletin #R-14 for your dealer discount and prices.

P. J. QUINN'S SONS ELECTRIC MOTOR CO., INC.
5-38 47TH ROAD, LONG ISLAND CITY 1, N. Y.
RAVENSWOOD 9-5940-5941

UsAirco

United States Air Conditioning Corp., Como Ave. Southeast at 334 St., Minneapolis 14, Minn.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
8120	2	38 20½ 45½	No	..	No	No
8130	3	38 20½ 45½	No	..	No	No
8150	5	38 20½ 45½	No	..	No	No

Viking

Viking Air Conditioning Corp., 5601 Walworth Ave., Cleveland 2, Ohio

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
2 V 1	2	33 26 72	Yes	800	Yes	Yes
3 V 1	3	33 26 72	Yes	1,200	Yes	Yes

Waterman-Waterbury

Waterman-Waterbury Co., 1121 Jackson St., N.E., Minneapolis, Minn.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
R-1½	1½	.. ..	No	..	..	..
R-2	2	.. ..	No	..	..	..
R-3	3	.. ..	No	..	..	..
R-5	5	.. ..	No	..	..	..

Worthington

Worthington Corp., Holyoke, Mass.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
SCYR-350	3	37 21½ 57½	No	..	Yes	Yes
SCYR-550	5	48 23½ 61½	No	..	Yes	Yes

Yorkaire

Yorkaire Sealed Circuit Conditioners

York Corp., Roosevelt Ave., York, Pa.

Model No.	Comp. Size (In Hp.)	Dimensions (In.)—Width Depth Height	Own Blower (Yes or No)	Blower Rating (C.F.M.)	Temp. Control (Yes or No)	Damper Control (Yes or No)
HAC 200	1(2)	34½ 37½ 45½	No	..	Yes	No
HC 7	¾	17½ 19½ 22½	No	..	No	No
HC 10A	1	17½ 19½ 22½	No	..	No	No
HC 150	¾ (2)	36½ 19½ 25½	No	..	No	No
HC 200A	1(2)	36½ 19½ 25½	No	..	No	No
HC 352B	3	31 22 48	No	..	Yes	No
HC 552B	5	41 22 48	No	..	Yes	No
RC 352B	3	32 23 48	No	..	Yes	No
RC 552B	5	42 23 48	No	..	Yes	No

Models HAC 200, RC 352B, and RC 552B have casings; other model specifications are without casings.

Coleman Sees Water Shortage as Deterrent To Year-Round Cooling

NEW YORK CITY—The water problem is, and will continue to be, the greatest single deterrent to sales of year-round residential air conditioning, believes Sheldon Coleman, president and general manager of Coleman Co., Wichita, Kan.

In introducing his company's new line of residential cooling equipment here recently, Coleman declared that the initial cost of such equipment is not a serious problem because it is less, say, than an extra bathroom, and can be spread over 10 to as much as 30 years depending on the mortgage financing arrangements available.

Operating costs and the water cost-water shortage problem can be an important factor, though, he emphasized.

He cited University of Illinois tests on air conditioning installations using city water which showed electric costs (\$15.86) actually less than water costs (\$16.52), and added that in many cases, regardless of water costs, cities were acting, and would act, to control use of water for air conditioning.

A savings of 97% on water, however, was claimed by Coleman for the evaporative condenser his company is offering with its line of residential units. (It's packaged with the compressor for remote installation.) The water saver, he estimates, will add about \$200 to the average installation cost.



Get balanced performance through matched equipment

TEAM-UP

Acme products for top efficiency



Acme HEAT EXCHANGERS

Acme shell and tube type heat exchangers include 11 standard models with capacities from 3 to 200 tons. They feature low pressure drop and high performance. The extended bar type fin surface permits the maximum amount of surface being furnished in a minimum amount of space. System capacities have been greatly improved as result of liquid sub-cooling and the elimination of liquid slugging and flash gas.



Acme CONDENSERS

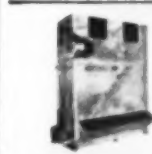
Acme has both shell and tube and shell and coil condensers available for use with either Freon or Ammonia refrigerants. There are well over a hundred standard sizes and capacities ranging from 1/2 to 700 tons. Each series of condensers within the Acme line was designed for a specific purpose. The exact model for your requirements is always available.



ACME INDUSTRIES, INC.

JACKSON, MICHIGAN

Mfgs. of a complete line of Air Conditioning and Refrigeration Equipment



Evaporative Condensers
Cooling Towers
Floor-type Unit Coolers



Direct Expansion (Dry-Ex) and Flooded Liquid Chillers
Heat Exchangers, Oil Separators



Shell and Tube, Shell and Coil Condensers
Receivers, Pipe Coils



Packaged Liquid Chillers to 225 tons



Flow-Temp Heat Pumps
Flow-Cold Liquid Chillers



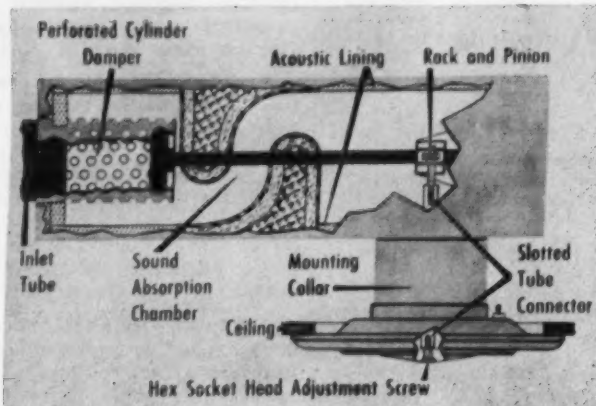
Remote Room Conditioner

Continuously serving the refrigeration and air conditioning industry since 1919

What's New

When requesting further information on new products, please use "Information Center" form.

High Pressure Diffuser Handles Varying Volume



—KEY NO. C-420—

DANBURY, Conn. — Capacity to handle wide volume variations in different zones is claimed for the new Connor "Kno-Draft" type HPR-K high pressure air diffuser announced recently by the Connor Engineering Corp. here.

The diffuser can be dampered from one to four inches, w. g., static pressure, permitting balancing of systems where volume requirements may vary anywhere from 50 to 100% from original design, the company asserted.

Long runs of diffusers serving large areas can be supplied by conduits of uniform size without the

customary reduction for each take-off, Connor officials said. Unlike low pressure systems where a slight variation from designed duct pressure would cause serious changes in air delivery, high pressure systems are extremely stable.

The Kno-Draft type HPR-K consists essentially of a perforated, cylindrical damper, a sound absorption chamber, and a standard circular diffuser. Performance characteristics are identical to those of the standard model. Calibrated damper valve is controlled from below.

Bulletin K-29 describes the type HPR-K, available in neck sizes of 4 to 10 in.



Packaged Water Cooler Fits Under the Counter

—KEY NO. C-421—

CHICAGO—Lern, Inc. here announces that its self-contained under counter water cooler, model U100 SC, has been especially designed to eliminate remote hookups and loss of time by enabling operators to install cold water stations at one or more convenient points along the length of the counter.

The unit, which comes ready for plugging into a 110-volt a.c. outlet, provides approximately 10 gals. or 150 glasses per hour of 42° water, using only a 1/4-hp. hermetically-sealed unit. It has a self-draining surface and space for empty water glasses.

The cooler is of stainless steel construction with removable front panel for quick access to adjustable temperature control and refrigeration unit. It is fully insulated and has a copper-lined evaporator.

'Firefoil' Can Withstand Temperatures Up to 900°

—KEY NO. C-422—

CINCINNATI—A. E. Binger, industrial sales manager of the Philip Carey Mfg. Co., recently announced the improvement of "Firefoil," an insulation material said to be suitable for temperatures up to 900° F.

Firefoil now possesses greater water resistance, although it is not suitable for outdoor exposure, it was stated.

"Carey Firefoil is composed of fine corrugated asbestos felts, firmly bonded and treated to render it a light weight, strong, and rigid material," the company said. "It combines structural strength and fire-resistance with its insulating qualities."

A principal use of Firefoil is in air conditioning plenum chambers. A typical air conditioning layout showing installation of the material has been drawn up by Carey engineers, and may be obtained from the company.

Other uses for Firefoil include machinery housings, partitions, bulkheads in ships, coil housings, ovens,



and fire proof linings for elevator shafts. This product can be nailed, screwed, or bolted in place and is cut with ordinary carpenter's tools, according to the company. Firefoil meets Navy Specification 32-A-2d.

Any Sharp Point Can Write on Labelon Plastic Tape



—KEY NO. C-423—

ROCHESTER, N. Y.—A pressure-sensitive plastic tape that can be written on with any sharp point has been introduced by the Labelon Tape Co., Inc. here for identifying stock parts, bins, and similar items.

Called "Labelon," the tape is provided in many widths and lengths, with most sizes held in a plastic dispenser with serrated edge cutting

bar. Larger rolls, on 3-in. cores, fit standard heavy-duty dispensers for larger operations.

Pressure of the writing instrument alone causes writing to appear beneath a protective outer coat of transparent plastic. The outer coat protects the writing against smudging, oil, grease, water, most chemicals, and dirt. It may be wiped clean in a jiffy should dust settle on it.

Neither Labelon's adhesive qualities nor the legibility of writing on it are affected by temperature changes between -40° F. and 150° F. Labelon will not curl, discolor, or lose its adhesive quality due to age.

The tape will stick without moistening to any smooth, dry, and reasonably clean surface.

Writing on Labelon appears in a strong contrasting color on a gleaming white background. Narrow bands of the same color as the writing are carried at top and bottom of the strip.

Available color combinations include blue, red, or green on white, thus providing a ready means of coding, if desired.

Pinnacle Self Service DAIRY and BEVERAGE REFRIGERATORS



HERE ARE THREE
SHELVES OF
"SELF SERVICE
SELLING"
IN THE FLOOR
SPACE OF ONE!

Model No. SSDC-528

8'-10" long, 40" wide, 74" high

ALSO AVAILABLE WITHOUT SUPERSTRUCTURE

• All Porcelain and Stainless Steel Panels with exception of outside back and bottom. Ends removable for continuous run installations. Cooled by means of finned gravity coils. Fluorescent lighting, U.L. approved.

FREE FOLDERS OF COMPLETE PINNACLE LINE AVAILABLE.

A few exclusive PINNACLE territory Franchises are still available. Write or wire immediately for full information.

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EQUIPMENT CORPORATION
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Export Dept.: 39 Broadway, New York

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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What's New (Cont.)

Serviceman Soundscope Detects Trouble Spots



KEY NO. C-424

SKOKIE, Ill.—A new tool, designed specifically for locating and diagnosing mechanical troubles through the medium of sound, has been developed by the Jas. P. Marsh Corp. here.

Based on proven scientific principles this instrument is claimed by the manufacturer to detect and "pin point" imperfections in all types of mechanical equipment.

The sounds of leaking valves, defective bellows, wrist pin and bear-

ing knocks, piston slaps, grinding gears, valve noises, turbulence, and a great many other mechanical difficulties can be detected and identified.

The Marsh "Serviceman Soundscope" consists of a comfortable ear-piece containing a sound-box system and transmitter, with a sensitive diaphragm capable of picking up sounds which cannot be heard by the human ear, and amplifying them until they are clearly audible.

The instrument comes packed in a plastic carrying case.

thermostat. All are protected by a five-year guarantee.

Kirby indicated that his company is developing a reverse cycle unit that will both heat and cool. However, he said, it would be recommended for a limited number of southern areas only.

Pointing out that Bal-Air units can be applied to commercial uses, too, Kirby said that by installing the unit next to an outside wall the evaporator supply and outlet ducts could be simply installed.

As remote high side packaged for other commercial uses, these units can be installed with walk-in coolers, cutting rooms, ice makers, or freezers.



Evaporative Condenser Built Into Bal-Air Cooler

KEY NO. C-425

NASHVILLE, Tenn.—New packaged air conditioning units, with built-in evaporative condenser, in 2, 3, 5, and 7½-ton sizes, have been announced by B. W. Kirby, president of Bal-Air, Inc. here.

In the Bal-Air units, the cooling coil, blower, and filter section is detachable so the high side package may be either remote or installed complete with the air handling unit to make one package, Kirby said.

These units have been developed primarily for domestic use, but can also be applied to commercial locations, he declared.

Measuring only 30 in. wide, 25 in. deep, and 60 in. high, the unit can be installed as one package in base-

ments next to the furnace or in the utility room. Or the high side package evaporative condenser may be installed in the garage, in the attic, or any other remote location while the cooling coil section, less or with filter, may be placed in the regular cooling and heating duct.

The cooling coil may be installed by suspending it in the regular duct trunk and can be located in the basement, utility room, or in the attic. In the latter type installations, condensate drains would have to be provided.

Extra insulation is added to deaden any objectionable operating sounds and make the Bal-Air unit quiet in operation. Each unit is wired, charged with gas, and equipped with



MEMO TO EQUIPMENT DEALERS:

You Can Prove to Your Customers That This Case Will Pay for Itself!

The Viking All-Purpose Self-Contained Display Case

It's easy to sell your customers when they see how they can make extra sales . . . extra profits. So prove to them that the Viking All-Purpose Display Case (8' and 10' lengths) really pays off.

The Viking All-Purpose Case provides adequate moisture, proper refrigeration, attractive display for vegetables, fruits, dairy products, delicatessen items, smoked

meats. That means your customers can increase their profits by increasing their margin, increasing sales volume and by eliminating losses and spoilage. These three items can add up to thousands of dollars in only a year's time.

Yes, the Viking All-Purpose Case is easy for you to sell wherever refrigerated items must be displayed. Get the full story on this profit maker. Send in coupon at once.

Inquire about a Viking franchise TODAY!

SINCE 1904

MAIL COUPON TODAY
Viking Refrigerators, Inc.
7500 Wilson Avenue, Kansas City 3, Missouri

☐ Please send me complete information about Viking's new All-Purpose Case.

☐ Tell me about the availability of Viking franchises in my area.

NAME _____

FIRM _____

ADDRESS _____ CITY _____ STATE _____

VIKING REFRIGERATORS, INC.
7500 Wilson Ave., Kansas City 3, Mo.



Westinghouse Has New Air Conditioning Compressor

KEY NO. C-426

BOSTON—A new, four-cylinder V-type refrigeration compressor for air conditioning has been announced by Westinghouse Electric Corp.

Called the CLS-2100, the new hermetic unit develops 56.8 tons (at ASRE Group 4 conditions).

The compressor has a dual voltage—208/220/440-volt—60-cycle motor that can be field connected for any one of the three voltages. It may also be adapted to part-winding starting on 208-220-volt service. The compressor is also available with two-phase, 60-cycle or three-phase, 50-cycle motors.

Approved control and safety devices, including an automatic reset, spring-loaded, high-to-low side refrigerant relief valve, are furnished as standard equipment. In addition, the compressor has a reversible oil lubricating pump that supplies oil to vital bearing surfaces regardless of motor rotation direction.

The compressor is completely accessible for field service and maintenance. It uses "Freon-12" refrigerant.



Key to WATER COOLER - ICE MAKER SALES . . . "Taste-Master" PURIFIER

Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO.
BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

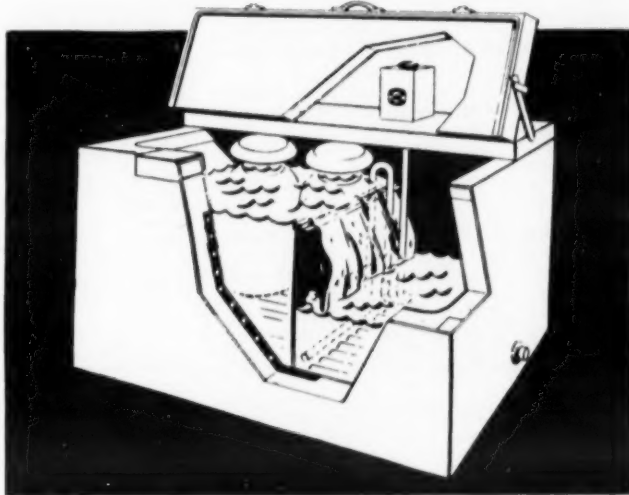


ESCO-MO SAYS . . .

GET MORE "COLD PROFITS" WITH **ESCO ICY-WALL MILK COOLERS**

Model "IW" ICY-WALL® Front-Opener

No other like it! "Jet" cooled in record time. Glistening walls of ice.



Model "VD" ICY-WALL®

Economy model. High in efficiency, low in price.

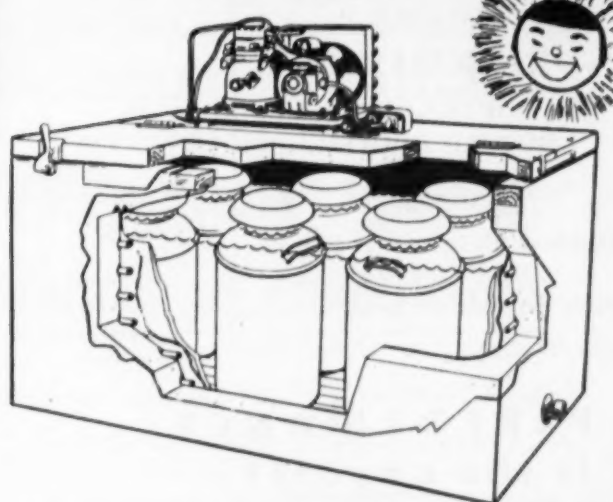
3 Complete lines!

for every need—every budget

No wonder you get bigger profits, faster turnover, greater volume with Esco! There's a model to suit the needs of every prospect on your list. And every Esco features the famous Icy-Wall super-cooling system . . . a triumph of 25 years' research! For details and prices, write us today.

Model "AD" "NI-AG-RA" ICY-WALL®

Water level stays neck-high all the time.



SELL THESE EXCLUSIVE FEATURES

- Glistening Walls of Ice.
- Strict Temperature Control.
- Super-Smooth Inside Walls and Bottom.



ESCO CABINET COMPANY

West Chester, Pennsylvania

'Registered Fedders Dealers' Will Adhere To Advertising Rules

BUFFALO—To assure the full and proper use of the company's customer education program, all Fedders room air conditioner retail outlets will be "registered Fedders dealers," says Robert E. Cassatt, refrigeration appliance sales manager, Fedders-Quigan Corp.

A registered Fedders dealer will:

1. Advertise and promote the sale of Fedders room air conditioners in his area, following as closely as possible advertising plans suggested by the distributor. To list his location and telephone number in the local telephone directory. To refrain from advertising in any way deemed objectionable by the distributor or by the corporation. This is to include the advertising of Fedders units at prices below the suggested retail price without prior agreement with the distributor.

2. Purchase and keep on display at least one room air conditioner at all times where possible and specifically during the months of April, May, June, July, and August.

3. Maintain a minimum stock of parts and service information.

4. Purchase all Fedders room air conditioners and parts from the area distributor and no one else.

In return, the distributor will:

1. Sell to the dealers Fedders room air conditioning equipment, when available, at prices to be determined by distributor, and subject to any and all regulations applicable thereto, whether governmental or otherwise. The distributor shall not be liable for failure to sell and deliver when prevented by causes beyond its control.

2. Assist the dealer in merchandising room air conditioners by making available all company campaigns, promotions, sales, service, literature, and any and all other materials provided by the corporation.

3. Make available technical instruction to dealer's service employees and to sell repair parts and repair materials at prices to be determined by distributor and in accordance with the corporation's service policy.

Outstanding Opportunity! 200 TON AIR CONDITIONING INSTALLATION

At a Fraction of Original Cost!

A complete workable system comprised of: 2—100 ton York compressor units; 200 ton York Dehumidifier; 200 ton York Evaporative Condenser; 2—100 H.P.C. & H. Starters; Westinghouse Precipitron; Set of Trans Preheat Coils; 10 Reheat Coils; Bryant 11,100 ft. Steam Boiler gas fired; 40,000 cfm Buffalo Forge Fan; Assembled Control Panel; Skidmore Condensate Pump; complete Minneapolis-Honeywell Controls for Pneumatic System.

Actual running time on this equipment is less than 20 months. A complete job record can be supplied by Equipment Manufacturer. This system is as good as new and will stand rigid inspection.

For Additional Information Contact:

C. J. O'HERON
336 Midland Bank Bldg.
Minneapolis, Minn.
Phone: Lincoln 7561

FLO-COLD DRINKMASTER DOUBLE-DUTY BOTTLE COOLER

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Menominee, Mich.

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PERFORMANCE is the payoff!

You're playing for keeps in the refrigeration service business. That's why you must be sure when you select controls. One fact is obvious — you can't go wrong with Ranco — maker of over 50,000,000 refrigeration controls in actual use today. And you don't have to hunt for the right control — not if you visit your Ranco dealer first. Ranco controls are available for more than 4,000 replacement installations!

LISTING Commercial Package Conditioners

Air-O-Matic

Williams Div., Eureka Williams Corp., 1201 E. Bell St., Bloomington, Ill.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
AEC-24	2	Semi-Herm	21 36 46	800	Yes	Yes
AEC-36	3	Semi-Herm	21 36 46	1,200	Yes	Yes
AEC-60	5	Semi-Herm	21 36 46	2,000	Yes	Yes

*Specifications not yet released.

Bakeraire

Bakeraire Corp., South Windham, Maine

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
BAH353	3	Hermetic	43 25 82	1,200	Yes	Optional
BAH553	5	Hermetic	43 25 82	2,000	Yes	Optional
BAH753	7.5	Hermetic	59 25 86	3,000	Yes	Optional
BAH1053	10	Open	82 25 86	4,000	Yes	Optional
BAH1553	15	Open	118 25 86	6,000	Yes	Optional

Brunner BAC

Brunner Mfg. Co., 1821 Broad St., Utica, N. Y.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
BAC 20-1-S	2	Open	35 25 76 1/2	800	Yes	Optional
BAC 30-1-S	3	Open	35 25 79 1/2	1,200	Yes	Optional
BAC 50-1-S	5	Open	44 26 87	2,000	Yes	Optional
BAC 75-1-S	7 1/2	Open	51 30 95 1/2	3,000	Yes	Optional
BAC 100-1-S	10	Open	57 30 99 1/2	4,000	Yes	Optional
BAC 20-1-D	2	Open	35 25 67 1/2	800	Yes	Op. in Duct
BAC 30-1-D	3	Open	35 25 71	1,200	Yes	Op. in Duct
BAC 50-1-D	5	Open	44 26 76 1/2	2,000	Yes	Op. in Duct
BAC 75-1-D	7 1/2	Open	51 30 83 1/2	3,000	Yes	Op. in Duct
BAC 100-1-D	10	Open	57 30 87 1/2	4,000	Yes	Op. in Duct

Bryant

Bryant Heater Div., A.G.E., Inc., 17825 St. Clair Ave., Cleveland, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
2-590	2	Hermetic	25 28 63	800	Yes	Yes
3-590	3	Hermetic	27 28 63	1,200	Yes	Yes
5-590	5	Open	33 28 68	2,000	Yes	Yes

Carrier

Carrier Corp., 300 South Geddes St., Syracuse, N. Y.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
50K2	2	Hermetic	36 21 39	800	Yes	Optional
50K4	3	Hermetic	41 22 43 80%*	1,200	Yes	Optional
50K6	5	Hermetic	41 22 43 90%*	2,000	Yes	Optional
50K8	7 1/2	Hermetic	48 30 102*	3,000	Yes	Optional
50K12	10	Hermetic	52 30 102*	4,000	Yes	Optional
50K16	15	Hermetic	62 30 107*	6,000	Yes	Optional

*With plenum.

Chrysler Airtemp

Chrysler Airtemp, 1600 Webster St., Dayton 1, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
1002	2	Hermetic	28 20 53	800	Yes	Optional
1003	3	Hermetic	35 20 54	1,200	Yes	Optional
1005	5	Hermetic	45 20 60	2,000	Yes	Optional
1008	8	Hermetic	48 20 94	3,000	Yes	Optional
1011	10	Hermetic	58 28 97	4,000	Yes	Optional
1015	15	Hermetic	58 28 105	6,000	Yes	Optional

Clime-Matic

United Conditioning Corp., Croton Falls, N. Y.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
SC-200	2	Hermetic	30 24 66 1/2	800/1,000	Yes	Optional
SC-265	2	Hermetic	30 24 66 1/2	1,000/1,200	Yes	Optional
SC-350	3	Hermetic	35 26 80	1,200/1,500	Yes	Optional
SC-550	5	Hermetic	43 26 80	2,000/2,500	Yes	Optional
SC-825	7 1/2	Hermetic	52 28 80	3,000/3,500	Yes	Optional
SC-1100	10	Hermetic	63 29 80	4,000/4,500	Yes	Optional
SC-1650	15	Hermetic	69 31 86	6,000/6,500	Yes	Optional

Cool-A-Matic

Automatic Firing Corp., 4417 Oleatha Ave., St. Louis, Mo.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
CSC-300	3	Semi-Herm	39 24 75	1,500	Yes	Optional
CSC-500	5	Semi-Herm	39 24 75	2,000	Yes	Optional
CSC-750	7 1/2	Semi-Herm	39 24 75	2,000	Yes	Optional

Cool-Ette

Cool-Ette, Inc., 20080 Jas. Couzens Hwy., Detroit 35, Mich.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
1-R300F	3	Hermetic	25 21 80 1/2	800	Yes	Optional
1-R300F	3	Hermetic	25 21 80 1/2	1,200	Yes	Optional
1-R300F	3	Hermetic	25 21 80 1/2	1,200	Yes	Optional

Curtis

Curtis Mfg. Co., Refrigerating Machine Div., 1905 Kienlen Ave., St. Louis 20, Mo.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
250PA	2	Open	35 1/4 22 3/4 76	800	Yes	Optional
400PA	3	Open	35 1/4 22 3/4 76	1,200	Yes	Optional
600PA	5	Open	42 1/4 24 1/2 86 1/2	2,000	Yes	Optional
800PA	7 1/2	Open	46 1/4 27 1/4 97 1/2	3,000	Yes	Optional
FWH-1000-CTAC	10	Open	69 33 1/4 69 1/2	4,000	Yes	Optional
FWH-1500-CTAC	15	Open	81 35 76	6,000	Yes	Optional

Frick

Frick Co., Waynesboro, Pa.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
300	3	Hermetic	35 24 81	1,300	Yes	Optional
520	5	Hermetic	42 27 90 1/2	2,000	Yes	Optional
750	7 1/2	Hermetic	42 27 90 1/2	2,700	Yes	Optional

Frigidaire

Frigidaire Div., General Motors Corp., 300 Taylor St., Dayton 10, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
ASL-300T	3	Hermetic	40 22 81	1,230	Yes	Optional
ASL-500T	5	Hermetic	40 28 86 1/2	2,000	Yes	Optional
ASL-750	7 1/2	Hermetic	40 28 86 1/2	2,700	Yes	Optional
SC-1001	10	Open	72 35 96 1/2	4,000	No	Optional
SCE-1001	10	Open	72 35 96 1/2	4,000	No	Optional

*Includes filter box.

General Electric

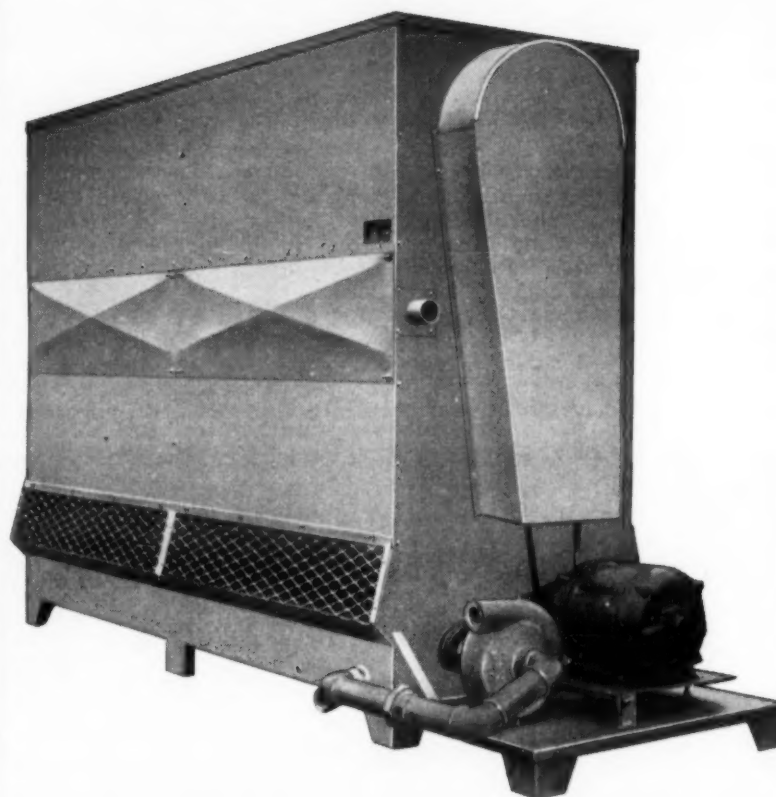
General Electric Co., 5 Lawrence St., Bloomfield, N. J.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
FD30G	3	Hermetic	34 21 82 1/2	1,200	Yes	Optional
FD50G	5	Hermetic	45 21 82 1/2	2,000	Yes	Optional
FD75G	7 1/2	Hermetic	45 22 88 1/2	3,000	Yes	Optional
FD100G	10	Hermetic	55 28 92 1/2	4,000	Yes	Optional
FD150G	15	Hermetic	77 28 90 1/2	6,000	Yes	Optional

*Height with air distributor.

Good-Fellow

CF SERIES COOLING TOWER



The GOODFELLOW centrifugal fan series of induced draft cooling towers meets every need for a highly efficient, compact and economical unit for use with air conditioning and refrigerating equipment that uses water-cooled condensers for their method of heat exchanger.

CF SERIES AVAILABLE IN POPULAR SIZES FROM 2 TO 50 TON CAPACITIES

Representatives in the Following Cities

E. J. Conley Co.
35 E. Wacker Drive
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Dexter Co.
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Baltimore, Md.

Florida Air Control Co.
624 W. Bay St.
Jacksonville, Fla.

Don R. Groth
342 Oklahoma Natural Bldg.
Oklahoma City, Okla.

J. D. Higgins Co.
822 Neil P. Anderson Bldg.
Fort Worth, Texas

Langhammer-Rummel Co.
300 Blum St. at Bowie
San Antonio, Texas

C. E. Malone Co., Inc.
623 N. Kingshighway Blvd.
St. Louis, Mo.

Newton Engineering Co.
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416 Jackson Bldg.
Buffalo, N. Y.

John F. Scanlan
1901 N. Front St.
Philadelphia, Pa.

E. A. Seeley, Inc.
116 Foundry St.
Wakefield, Mass.

Walter Strickland Co.
65 Alexander St., N.W.
Atlanta, Ga.

Randall S. Stover
1424 K St., N.W.
Washington, D. C.

Tennessee Heating Sales Co.
1311 Broadway, N.E.
Knoxville, Tenn.

Thermalair Engineering Co.
20080 James Couzens Highway
Detroit, Mich.

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Richmond, Va.

WRITE OR WIRE FOR
COMPLETE SPECIFICATIONS AND DATA

E. D. GOODFELLOW CO., Inc.
496 BODLEY AVE. • MEMPHIS, TENN.

Commercial Type Package Air Conditioners

Governair

Governair Corp., 513 N. Blackwelder, Oklahoma City, Okla.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
SC-30A	3	Open	34 24 86	..	..	..
SC-50A	5	Open	42 27 90	..	..	..
SC-75A	7½	Open	53 30 96	..	..	..

Kauffman

Kauffman Air Conditioning Co., 4505 Olive St., St. Louis, Mo.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
20	2	Open	36 21½ 84	800	Yes	Optional
30	3	Open	37 22½ 86	1,250	Yes	Optional
50	5	Open	37 22½ 88	2,000	Yes	Optional
75	7½	Open	37 22½ 88	3,000	Yes	Optional
100	10	Open	74 36 80	4,000	Yes	Optional
150	15	Open	84 36 84	4,700	Yes	Optional

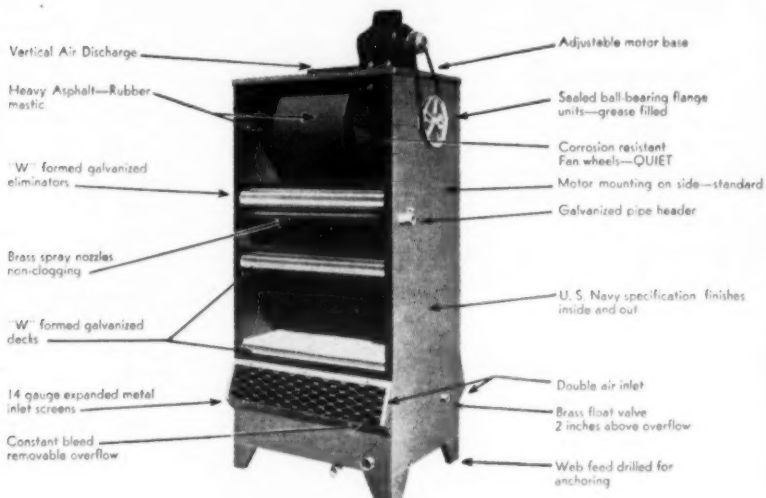
Lipman Convertible

Lipman Refrigeration Div., Yates-American Machine Co., Beloit, Wis.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
LH 200	2	Hermetic	36 21 64½	800	Yes	Optional
LH 300	3	Hermetic	36 21 64½	1,200	Yes	Optional
LH 500	5	Hermetic	46 29 72½	2,000	Yes	Optional
L 750	7½	Hermetic	46 25 88	2,700	Yes	Optional

Good-Fellow

ET SERIES ECONOMY TOWER



The most ideal towers for residential installations

ADDITIONAL FEATURES

- ★ Expanded metal belt guard on indoor models.
- ★ Cast iron sheaves.
- ★ Ample air discharge lip for attaching duct or fan discharge.
- ★ Sturdy all welded construction.
- ★ Large galvanized suction strainer.
- ★ Anti-cavitation baffle.
- ★ Rubber mounted motors for most quiet operation.
- ★ Inlet screens easily removed for access to sump and float valve.

ET Series available in 3, 5, 7½ and 10 Ton capacities



WRITE OR WIRE FOR COMPLETE SPECIFICATIONS AND DATA

E. D. GOODFELLOW CO., Inc.
496 BODLEY AVE. • MEMPHIS, TENN.

Luxaire

The C. A. Olsen Co., Elyria, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
H-2-SC	2	Hermetic	37 22 84	800	Yes	..
H-3-SC	3	Hermetic	37 22 84	1,200	Yes	..
H-5-SC	5	(In development)	..	..	..	..
H-75-SC	7½	(In development)	..	..	..	..

Marvair

Muncie Gear Works, Inc., Muncie, Ind.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
405E	3	Hermetic	46 43 72	1,500	Yes	Standard
406E	5	Open	55 43 72	2,000	Yes	Standard
407B	7½	Open	63 49 78	3,000	Yes	Standard
408B	10	Open	63 49 84	4,000	Yes	Standard
409A	15	Open	80 70 58	6,000	Yes	Standard
410B	20	Open	80 70 58	8,000	Yes	Standard
411B	25	Open	80 70 58	10,000	Yes	Standard
412A	30	Open	88 70 73	12,000	Yes	Standard
414	40	Open	88 70 92	16,000	Yes	Standard

The above units are of the heat pump design.

Melco

Melchior, Armstrong, Dessau Co., 730 Grand Ave., Ridgefield, N. J.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
MC-35	3	Hermetic	36 24 83	1,200	Yes	Optional
MC-55	5	Hermetic	42 24 90½	2,000	Yes	Optional
MC-80	7½	Hermetic	54 26 96½	3,000	Yes	Optional

Moncrief

The Henry Furnace Co., Medina, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
H-2-SC	2	Hermetic	37 22 84	800	Yes	None
H-3-SC	3	Hermetic	37 22 84	1,200	Yes	None
H-5-SC	5	(In development)	..	..	..	..
H-75-SC	7½	(In development)	..	..	..	..

Mueller Climatrol

L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee, Wis.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
904-21G	2	Hermetic	28 23½ 81	800	Yes	Optional
904-23G	2	Hermetic	28 23½ 81	800	Yes	Optional
904-31G	3	Hermetic	36 27¼ 90	1,200	Yes	Optional
904-33G	3	Hermetic	36 27¼ 90	1,200	Yes	Optional
904-51G	5	Hermetic	40 27¼ 92	2,000	Yes	Optional
904-53G	5	Hermetic	40 27¼ 92	2,000	Yes	Optional
904-73G	7½	Hermetic	46 27¼ 94	3,000	Yes	Optional

Nevinger

Nevinger Mfg. Co., Inc., 224 E. Harris, Greenville, Ill.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
SCH-24 W	2	Hermetic	36 22 72	800	Yes	Optional
SCH-36 W	3	Hermetic	37 22 86	1,200	Yes	Optional
SCH-60 W	5	Hermetic	46 22 88	2,000	Yes	Optional
SCH-90 W	7½	Hermetic	48 28 96	3,000	Yes	Optional
SCH-120 W	10	Hermetic	30 66 100	4,000	Yes	Optional
SCH-180 W	15	Hermetic	30 82 108	6,000	Yes	Optional

Norman

Norman Products Co., 1150 Chesapeake Ave., Columbus, Ohio

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
HAC-2	2	Hermetic	50½ 56½ 22	800	Yes	..
HAC-3	3	Hermetic	50½ 56½ 22	1,200	Yes	..
VAC-2	2	Hermetic	46 25 61½	800	Yes	..
VAC-3	3	Hermetic	46 25 61½	1,200	Yes	..
HAC-2	2	Hermetic	50½ 39½ 22	800	Yes	..
HAC-3	3	Hermetic	50½ 39½ 22	1,200	Yes	..
VAC-2	2	Hermetic	46 25 40	800	Yes	..
VAC-3	3	Hermetic	46 25 40	1,200	Yes	..

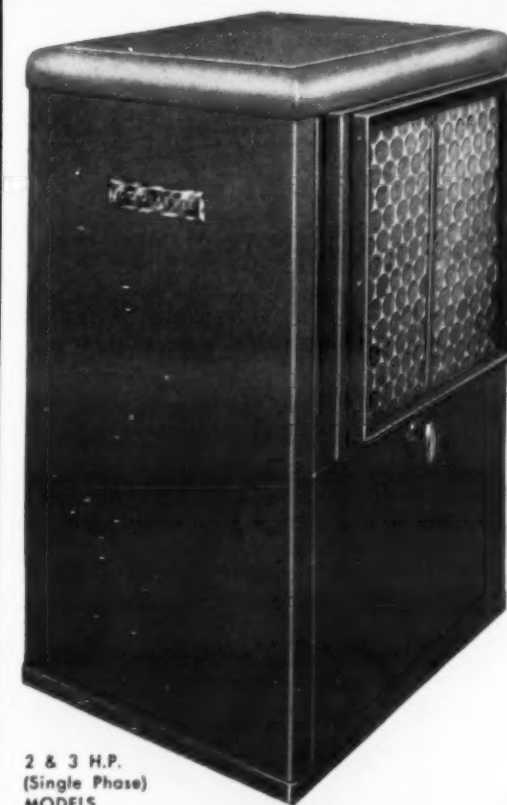
All above models available in 5-ton size.
*Designed as summer-winter combination unit.

Servel

Servel, Inc., Evansville 20, Ind.

Model No.	Cooling Capacity (In Tons)	System	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
DC-96-S	3.3	Absorption	51½ 51 73½	1,200-1,400	Yes	Standard
DE-96-S	5.4	Absorption	66¼ 57½ 84½	2,000-2,500	Yes	Standard
DE-144-S	5.4	Absorption	66¼ 57½ 84½	2,000-2,500	Yes	Standard
SDE-96-S	5.4	Absorption	58 30 84½	2,000	Yes	Optional

(Concluded on following page)

2 & 3 H.P.
(Single Phase)
MODELSCAN BE CONNECTED TO ANY
FORCED AIR FURNACE—NEW OR OLDFRANCHISES AVAILABLE
FOR
COOL-ETTE
RESIDENTIAL AIR CONDITIONERSHere's Top Quality—Lowest Cost
Air Conditioning at its Best!

Designed to fit any forced warm air furnace, Cool-ette can be installed in the cold air or discharge ducts—in front or at either side of the furnace. A single Summer-Winter switch with automatic thermostat control provides trouble-free comfort. Cools the entire house or building—not just one or two rooms. No motor running in the bedroom—no drip outside the windows. The most versatile air conditioning system yet devised—makes old houses liveable—new houses saleable. Can be ceiling suspended or supplied with propeller or centrifugal fan sections.

Predictions are that the 1953 season will be the biggest yet in air conditioning. Cash in on this tremendous market with a Cool-ette franchise.

Write or Phone

COOL-ETTE, INC. — 20080 JAS. COUZENS HWY.
DETROIT 35, MICHIGAN — Phone BRoadway 3-2068Current
Literature
AvailableMeasuring Humidity from
Remote Location Described

—KEY NO. O-420—

PHILADELPHIA—A new concept of humidity measurement that makes possible direct humidity readings from remote locations is described in Honeywell Instrumentation Data Sheet No. 10.5-4a issued recently by the Minneapolis-Honeywell Regulator Co. Industrial Div. here.

The four-page pamphlet is entitled "Humidity Control for Industrial Air Conditioning." It describes and illustrates the humidity sensing element and the composite RH transducer.

Catalog Covers Bush
Air Handling Units

—KEY NO. O-421—

WEST HARTFORD, Conn.—The Bush Mfg. Co. has just issued a two color, 20-page catalog covering its air handling units.

The new catalog—free on request—contains complete specifications on Bush central station air handling units and all accessory equipment. Also included is information regarding unit selection as well as rating tables for direct expansion, water, and steam coils.

Bulletin Describes Use
Of Blast Coil Heaters

—KEY NO. O-422—

ST. LOUIS—Electric blast coil heaters for use as supplementary heat sources in connection with air conditioning systems are described in a bulletin issued recently by Industrial Engineering and Equipment Co. here.

The 12-page bulletin gives a general description of "Indeco" heaters, construction details, pressure drop curves, ordering information, specifications, magnetic contactors, and a list of users.

Mueller Catalog Lists
Furnace Pipe, Fittings

—KEY NO. O-423—

MILWAUKEE—A new catalog on Mueller furnace pipe, duct, and fittings has been announced by the L. J. Mueller Furnace Co. here, manufacturer of Mueller Climatrol heating, air conditioning, and cooling equipment.

Mueller, which refers to all types of furnace pipe, duct, and fittings manufactured by Mueller, includes gravity, graduated trunk, and extended plenum systems, small pipe systems, and perimeter systems.

The new catalog is 24 pages and cover. It is printed in three colors on white stock, and is designed for easy reference.

Applying Acoustical Insulation

Glass Fiber Is 'Stitched' To Interior Air Duct

NEW YORK CITY—Universal Sheet Metal Corp., which has done some of the largest duct type air conditioning installations hereabouts thinks it may have the answer to a difficult, time-consuming phase of its operations—the application of acoustical insulation to duct interiors.

Instead of applying the Ultralite glass fiber insulation with the usual adhesive to the sheet metal and then supporting it with fasteners, Universal is now "stitching" the insulation to the metal with a special wire stapling machine manufactured by Bostitch, Inc.

The told method, it is said, took too long, was too costly, consumed too much plant floor-space and manpower, and in the end the adhesive had to have a couple of holding "assistants" from stove bolts, or rivets, or clips. Besides eliminating these problems, metal stitches are said to be equal to, or better than other fastening methods in terms in shear, pull, and vibration tests.

Here's how the company schedules this operation now:

The metal is delivered in standard 36 by 96-in. sheets; the Ultralite in rolls 1/2-in. or 1-in. thick by 48-in. by 200 ft. long. The Ultralite has a vinyl-spray facing on one side, facing the air-stream in the duct. This is to prevent the air picking up any loose particles of glass fiber.

While the sheet is being cut to size and shape, two mechanics have loaded a 200-ft. roll of the Ultralite on a

WIRE STAPLING machine fastens glass fiber insulation to flat sheets of metal. No adhesive is needed.



table and are measuring off the insulation, to size, to apply to the sheet. They use an ordinary rule and pen-knife, and since most of their work is in widths of 4 ft. and less, a single pass of the knife across the hard-top table does a neat job. When enough Ultralite and sheet steel has been cut to carry the insulation men through a fair production run, they knock off and start "sewing."

The flat sheet is raised into place on the holding jig, just under the staple stitcher. The Ultralite is raised up and dropped onto the sheet, the metal buttons are positioned on top of the Ultralite, four to the sq. ft., the operator trips his treadle and the Bostitch machine begins to stitch the glass fiber insulation to the sheet.

Two men now do the fastening job in much less time than four men did it before, using the adhesive gook and a metal-worker's full vocabulary. Nowadays, the men can handle the work as fast as it is delivered to them; before, Ultralite and steel sheets "backed up" while the gook dried.

Sizes of sheet handled are all in the lightweight area; 26, 24, 22 and 20 gauge (U.S.S.). Handling of the steel-sheet-plus-Ultralite-insulation under the staple stitcher itself is only limited by the size of the jig holding the material, and the depth of the stitcher's throat (24 in.).

The round washers that hold the Ultralite-side in place are ordinary tin-smith's roofing buttons.

The stapler literally does stitch through metal; can fasten metals together, or metal to other non-brittle materials like rubber, fibre, some plastics and, of course, glass fiber insulation like Ultralite. (Ultralite is said to be the only insulation that will not break down during the stitching operation). The staples are formed from a coil of hardened steel wire. In application, the wire goes through the metal and is automatically clinched on the underside, all of this done in about a fifth of a second. On smaller fittings with Ultralite, a single operator can handle the machine alone.

Residential Cooling Towers...



...a tremendous
new market—
and it's a

MARLEY MARKET!

The 1953 line of Marley cooling towers offers everything you need to cash in on the tremendous market for residential cooling towers. It's the only complete small-tower line—designed, manufactured, tested, guaranteed, and "pre-sold" by the world's leading manufacturer of water cooling equipment.

If the job calls for an Aquatower, Marley has them—a complete line of sizes and models for indoor or outdoor services from 2 to 60 tons. If you need natural draft towers, Marley has them—in a wide range of sizes and styles... built of only heart quality redwood... equipped with patented Marley non-clog spray nozzles. And whatever your requirements, you can count on over-the-counter delivery from Marley stocks in 30 cities.

To make sure that you get your share of "the Marley market," get in touch with your nearest Marley representative for expert assistance in tower selection and information on the complete Marley line.

*Registered trade mark



The Marley Company

KANSAS CITY, MISSOURI

Commercial Type Package Air Conditioners

Sterling

Sterling Air Conditioning Corp., 2222 S. Boulevard, Charlotte, N. C.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
RS-2C	2	Semi-Herm	36 22 45	800	No	No
RS-3C	3	Semi-Herm	36 22 45	1,200	No	Optional

Thatcher

Thatcher Furnace Co., Center St., Garwood, N. J.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
S20-3	2	Semi-Herm	38 20 75	800	Yes	Optional
S20-1	2	Semi-Herm	38 20 75	800	Yes	Optional
S30-3	3	Semi-Herm	38 20 75	1,200	Yes	Optional
S30-1	3	Semi-Herm	38 20 75	1,200	Yes	Optional
S50-3	5	Semi-Herm	44 22 83	2,000	Yes	Optional
S50-1	5	Semi-Herm	44 22 83	2,000	Yes	Optional
S75-3	7 1/2	Semi-Herm	48 26 92	3,000	Yes	Optional
S100-3	10	Semi-Herm	62 27 93	4,000	Yes	Optional

Trane

The Trane Co., Second & Cameron Aves., La Crosse, Wis.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
32 SC	3	Semi-Herm	37 21 83 1/2	1,200	Yes	Optional
52 SC	5	Semi-Herm	45 25 84 1/2	2,000	Yes	Optional
72 SC	7 1/2	Semi-Herm	59 29 86 1/2	3,000	Yes	Optional
102 SCW	10	Open	66 35 85 1/2	4,000	No	No
102 SCE*	10	Open	109 35 62 1/2	4,000	No	No
152 SCW	15	Open	71 37 68 1/2	6,000	No	No
152 SCE*	15	Open	117 37 68 1/2	6,000	No	No
202 SCW	20	Open	71 40 72 1/2	8,000	No	No
202 SCE*	20	Open	121 40 72 1/2	8,000	No	No

*Models 102 SCE, 152 SCE, and 202 SCE have evaporative condensers, the remainder have water-cooled condensers.

Typhoon

Typhoon Air Conditioning Co., Inc., 794 Union St., Brooklyn 15, N. Y.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
21 SC	1 1/2	Open	35 21 80 1/2	600	Yes	Optional
31 SC	2	Open	35 21 80 1/2	800	Yes	Optional
41 SC	3	Open	35 21 80 1/2	1,200	Yes	Optional
61	5	Open	42 23 91 1/2	1,900	Yes	Optional
81	7 1/2	Open	42 23 91 1/2	2,800	Yes	Optional
82	7 1/2	Open	52 27 95 1/2	3,800	Yes	Optional
111	10	Open	52 27 95 1/2	4,000	Yes	Optional
161	15	Open	62 33 95	6,000	Yes	Optional
211	20	Open	62 33 95	8,000	Yes	Optional
#30*	2	Open	35 21 66	800	Yes	Not required
#50*	3	Open	35 21 66	1,200	Yes	Not required
#75*	5	Open	42 21 78	2,000	Yes	Not required
#110*	7 1/2	Open	42 21 78	2,800	Yes	Not required
#120*	7 1/2	Open	53 24 79	3,800	Yes	Not required
#150*	10	Open	53 24 79	4,000	Yes	Not required
#225*	15	Open	63 33 95	6,000	Yes	Not required
#300*	20	Open	63 33 95	8,000	Yes	Not required

*Heat Pump.

Unitaire

Westinghouse Electric Corp., Air Conditioning Div., Hyde Park, Boston 36, Mass.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
RU-31	3	Semi-Herm	28 21 56 1/2	1,200	*	Optional
RU-51	5	Semi-Herm	35 25 64 1/2	2,000	*	Optional
SU-21	2	Semi-Herm	36 22 68 1/2	800	†	Optional
SU-31	3	Semi-Herm	36 22 68 1/2	1,200	†	Optional
SU-51	5	Semi-Herm	44 22 77	2,000	†	Optional
SU-81	7 1/2	Semi-Herm	51 25 85	3,000	†	Optional
MU-101	2(5)	Semi-Herm	61 32 91	6,000	†	Optional
MU-151	2(7 1/2)	Semi-Herm	76 32 91	6,000	†	Optional
LU-550	15	Semi-Herm	82 34 66 1/2	5,150	(Nom)	Optional
LU-640	20	Semi-Herm	100 34 73 1/2	6,200	(Nom)	Optional
LU-850	25	Semi-Herm	100 34 73 1/2	7,700	(Nom)	Optional

*Wall thermostat.

†Attached thermostat.

UsAirco

United States Air Conditioning Corp., Como Ave., Southeast at 33rd St., Minneapolis 14, Minn.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
7720E	2	Hermetic	28 20 63	800	No	Optional
7730E	3	Hermetic	28 20 63	1,200	No	Optional
7750E	5	Hermetic	44 22 69	2,000	No	Optional
7775E	7 1/2	Hermetic	48 26 77	3,000	No	Optional
77100E	10*	Hermetic	62 27 75	4,000	No	Optional

*Two 5-hp. units.

Worthington

Worthington Corp., Holyoke, Mass.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
SCY-350	3	Hermetic	37 20 83	1,200	Yes	Optional
SCY-550	5	Hermetic	48 22 90	2,000	Yes	Optional
SCY-750	7 1/2	Hermetic	48 22 95	2,700	Yes	Optional
SCY-1050	2-5	Hermetic	82 31 98 1/2	4,000	Yes	Optional
SCY-1550	2-7 1/2	Hermetic	82 31 98 1/2	6,000	Yes	Optional

Yorkaire Conditioners

York Corp., Roosevelt Ave., York, Pa.

Model No.	Comp. Size (In Hp.)	Type Comp. (Open or Hermetic)	—Dimensions— Width Depth Height	C.F.M. Rating	Temp. Control	Heating Coil (Standard or Optional)
351 B	3	Open	32 23 82 1/2	1,200	Yes	Optional
551 B	5	Open	42 23 90 1/2	2,100	Yes	Optional
352 B	3	Hermetic	32 23 82 1/2	1,200	Yes	Optional
552 B	5	Hermetic	42 23 82 1/2	2,100	Yes	Optional
751	7 1/2	Open	42 23 95	2,400	Yes	Optional
801 B	(1) 5	Hermetic	73 23 82 1/2	3,300	Yes	Optional
	(1) 3					
1002	(2) 5	Hermetic	55 44 90 1/2	4,000	Yes	Optional
1502	(3) 5	Hermetic	72 44 90 1/2	6,000	Yes	Optional

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Lehigh Univ. Sponsors Year-Round Residential Conference April 24-25

BETHLEHEM, Pa.—Eleven papers and a panel discussion have been programmed for the technical conference on year-round residential air conditioning to be held by Lehigh university here April 24 and 25.

"In recognition of the growing importance of year-round residential air conditioning to the home owner, the builder, the equipment manufacturer, and research groups, the Department of Mechanical Engineering at Lehigh is sponsoring the conference to bring together members of these various groups for the purpose of exploring areas in which further research and development are needed," explains Prof. V. D. Eppes, conference director.

Conference will be held at Packard Laboratory here beginning at 10:30 a.m. Friday, April 24, and ending at 12:30 p.m. Saturday, the 25th.

Many phases of the subject will be covered in the two-day meeting. The various speakers will discuss such topics as modern residential construction, current research, load calculations, vapor problems, problems in control and operation of systems, influences of water, power, and fuel availability, and future research.

The panel slated for Friday evening at the Bethlehem hotel will look at residential air conditioning from the viewpoints of the architect, interior designer, and occupant.

Complete program follows:

Friday, April 24

9:30-10:30 a.m. — Registration, Packard Laboratory.

10:30—Conference opening. Dr. M. D. Whitaker, president, Lehigh U.

10:35—"Technical Aspects of Modern Residential Construction," N. A. Cole, president, Fabricon Co., Austin, Texas.

11:25—Review of current ASHVE research program, R. S. Dill.

12:10—Review of current research at University of Illinois, Prof. M. K. Fahnestock, University of Illinois.

1:10—Buffet luncheon.

2:30—"Load Calculations for Residences," F. W. Deady, Bryant Heater Div., Affiliated Gas Equipment, Inc.

3:20—"Comparison of Actual and Calculated Loads for Residences," Prof. R. W. Roose, Univ. of Illinois.

4:10-5—Discussion.

7 p.m.—Dinner at Hotel Bethlehem ballroom. Dr. H. A. Neville, Lehigh U., toastmaster.

Panel discussion of residential air conditioning by L. G. Haeger, National Association of Home Builders; R. J. Johnson, U. S. Public Health Service; H. R. Sleeper, New York City architect, and Mrs. H. R. Sleeper.

Saturday, April 25

9 a.m.—"Vapor Problems," C. W. Nessell, Minneapolis-Honeywell Regulator Co.

9:30—"Problems in the Control and Operation of Air Conditioning Systems," W. A. Grant, Carrier Corp.; W. G. Senft, American Radiator and Standard Sanitary Corp.; G. R. Wachter, York Corp.

11:15—"Influences of Water, Power, and Fuel Availabilities on Year-Round Residential Air Conditioning," T. H. Urdahl, consulting engineer, Washington, D. C.

11:45—"Field for Future Research and Development," J. R. Hertzler, York Corp.

UL Jam-Up May Delay Some Conditioners--

(Concluded from Page 1, Column 4) these new units have to go through the laboratories, which means a greatly increased job for the engineers in UL's Casualty and Automotive Department.

Also contributing to the bottleneck are UL's new, and more stringent, requirements for refrigeration and air conditioning. This means that units, for example, which had been approved a year ago and haven't been changed in the slightest, have to go through UL again to be tested under the new requirements.

2 MONTHS IS MINIMUM TIME

And to add to the problem, UL is short of help.

"It takes a minimum of two months for a unit to go through the UL laboratories and obtain a 'listing,'" explains C. B. Schram of the UL Casualty and Automotive Department.

"On the other hand, a year or more may be required. This can vary considerably. If, for example, a single model of a window unit is submitted, and is found to be completely satisfactory, it will probably get through in the minimum two months."

If the unit is not satisfactory at the first check, it will have to be changed until it does measure up to UL requirements, he explained. This, of course, will take considerably longer.

"Some manufacturers, usually those with a line of larger package units of several sizes, want to have the complete line listed at the same time," Schram said. "Thus, if there's something wrong with just one unit, listing of the whole line will be held up until that unit is approved."

Delays are also occasioned when manufacturers include special components in their units which have not previously been investigated by UL, he explained. The laboratories then have to test this component by itself, which can hold up approval.

The bottleneck in UL can also be compounded, as it were.

Several of the new firms entering the air conditioning field for the first time this year are employing basic refrigeration "cycles" manufactured by two or three companies specializing in this type of operation.

The original manufacturer of these units has to submit them for UL approval.

SPECIAL COMPONENTS CAUSE DELAYS

In turn, however, the new manufacturer who's merely putting a cabinet around the basic cycle, or is perhaps installing it in a cabinet with his furnace, also has to submit the final product to UL for testing and listing.

It's not unlikely then that the minimum delay of two months would be doubled, since both the original basic unit and the cabinet in which it's assembled have to wait their turn for testing.

Can a manufacturer whose product is waiting in line at UL take a chance it will be approved and in the meantime ship units to his distributor who would warehouse them until the UL listing is received?

"He can, but he's taking quite a chance," Schram declared. "When we test a product we ask the manufacturer if he's sent any out yet. If we

find that the product meets our requirements without any changes being necessary, or perhaps with very minor changes, we will list the original model number of the unit.

"If important changes have to be made to get UL approval, however, we insist that the manufacturer change the model number. Thus, the units he shipped out under the original model number won't be listed by UL and can't be installed, assuming local authorities require UL listing."

QUALIFIED ENGINEERS SCARCE

Just how far behind are Underwriters Laboratories at the moment?

"Air conditioning units that were submitted last December are just about ready now," Schram says.

Underwriters Laboratories is attempting to improve the situation by hiring more help, Schram also said, but qualified engineers are scarce, and considerable time is required for training them.

Dale Distributing Takes UsAireo Room Cooler Line

MINNEAPOLIS—In a major expansion of merchandising facilities for its window-type room coolers, United States Air Conditioning Corp. has named Dale Distributing Co., Inc. as its distributor for the metropolitan New York area.

Dale, one of New York's largest distributors of household appliances, will handle the sale of UsAireo's window units in the five city boroughs, Nassau and Suffolk counties on Long Island, and Westchester county.

'53 Conditioner Firms--

(Concluded from Page 1, Column 5) age air conditioners, and a number of these are firms who are primarily interested in the residential field, but who have adapted their package systems to a unit suitable for commercial applications.

The listings in this Special Air Conditioning Issue of AIR CONDITIONING & REFRIGERATION NEWS represent the results of a thorough canvass by the staff of the NEWS, and it is to be doubted that there are many major producers who are not represented in the listings. There may be missing the names of some small producers who distribute in a local area only.

In certain instances, where readers believe they have knowledge of a company being in the business whose name does not appear in the listings, there may be special reasons for the omission.

Hotpoint, for example, declined to list its room air conditioners since its models are not now nationally distributed, distribution being limited to certain sales districts in a study of the marketing characteristics of the room cooler.

Muntz Industries (maker of Muntz television sets and exponent of "direct" selling) which was once rumored to be prepared to put 200,000 room air conditioners on the market this year, declined to furnish information on its models, stating: "We have not as yet progressed in production of our room air conditioner to the point where we can supply you with the data required."

Loneran Mfg. Co., which has produced and marketed room units in previous years, is now producing on a contract basis only.

In the field of "residential" air conditioners (complete home comfort cooling systems) the Heil Co., a major furnace manufacturer, said that it was not far enough along with the development of a comfort cooling system to forward information on its models. Norge Heat Div. of Borg-Warner Corp. stated that its air conditioning units were being redesigned and therefore it could not release specifications at this time.

Jaden Mfg. Co. and Johns Sales Associates stated that while they had once sold comfort cooling equipment, they were no longer doing so.

In order to avoid confusion, the listings do not include "package" water chilling systems for air conditioning, or convactor units or blower units that do not include a condensing unit.

Lauer Prediction --

(Concluded from Page 1, Column 3)

number of homes that it has equipped with year-round systems, and that this study is now available for York staff members to study.

"Installation" is the big problem in year-round systems, York's president declared, but predicted that solutions would be reached in a relatively short time.

In a talk at York before an American Society of Refrigerating Engineers, group, Lauer expressed a belief that the "million per year" mark in room air conditioner sales is not too far away.

He reviewed York Corp.'s plans for construction of a new \$900,000 engineering and research laboratory. He also said that the company is preparing an expansion plan to increase plant capacity.

Here are your PROFIT OPPORTUNITIES with BRYANT air conditioning

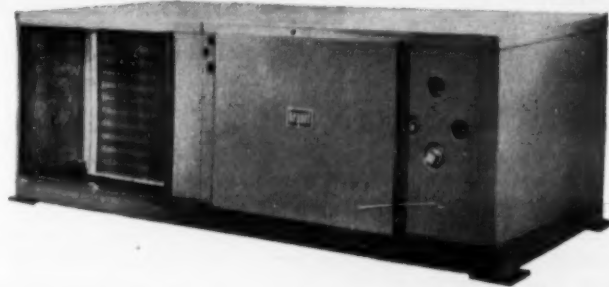
A ROOM AIR CONDITIONER FOR MASS MARKET COMFORT SEEKERS!



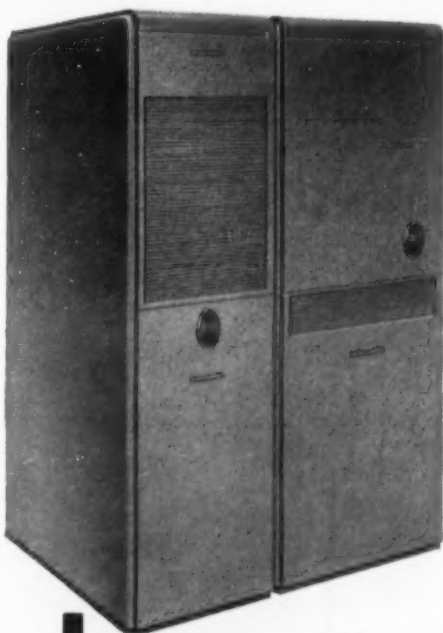
The Bryant "551" Room Air Conditioner has what it takes to bring you a lion's share of this summer's big business in room coolers. It's smartly styled to satisfy every taste. It's available in 3 capacities— $\frac{1}{2}$, $\frac{3}{4}$ and 1 ton—to answer the cooling needs of any room. It's engineered to keep customers satisfied.

A DUCT AIR CONDITIONER FOR LOW COST YEAR 'ROUND HOME CONDITIONING

Many who want a completely air conditioned home cannot afford the cost of a centralized system. The Bryant "580" Duct Cooler gives you a practical solution to offer—a 3 ton conditioner that fits in existing duct work of a forced air furnace to provide an integrated year 'round heating and cooling system at unusually low cost. It's a real space saver, too!



THE FAMOUS "COMMAND-AIRE" TWINS FOR THE ULTIMATE IN YEAR 'ROUND HOME CONDITIONING



Here's the most revolutionary year 'round conditioning team available today—twin independent heating and cooling units of unusually compact design—available in a wide range of combinations. Gas or oil furnaces from 50,000 to 175,000 Btu/hr are matched with cooling units of 2, 3 or 5 ton capacity. Homeowners can install both units initially or add cooling later. And the price is unusually low. They're being nationally advertised—are enthusiastically endorsed by builders everywhere.

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A DOOR-OPENER to better ice service, Ice-Flo automatically produces sparkling clear, solid, extra-large ice cubes in quantity at point of use. The result of years of research, scientifically shaped Ice-Flo cubes don't mat or stick together. They last longer in drinks and in storage because they are solid.

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Calculating Residential Cooling Load (1)

'24 Hr. Load Calculation Method' Would Cut First Cost, Equipment Size, Quantity of Air, and Power Costs; Simplify Application Problems

For various reasons a new approach to the problem of load calculation has been considered necessary for residential air conditioning. Carrier Corp.'s answer is the 24-hour method, which is discussed in detail here by two of the company's engineers. The discussion will be published in three parts, this being the first.

By E. P. Palmatier and A. W. Carroll, Carrier Corp.*

Year-round air conditioning, including the summer cooling function, is the hottest thing in home building. Talk to any manufacturer of air conditioning equipment and he will tell you it is difficult to meet the demand. Talk to contractors with experience—they will tell you year-round air conditioning helps sell houses. Talk to the house-buying public—they want year-round air conditioning, if it doesn't cost too much.

We in the air conditioning business naturally want to see the residential market grow. New types of year-round air conditioning equipment specifically designed for residences, a period of unprecedented prosperity, and a couple of unusually hot summers have caused this infant industry to grow by leaps and bounds. But manufacturers of equipment have no intention of standing idly by. Everything possible will be done to improve equipment, simplify its application, reduce its cost, and hence bring all-

year comfort within the reach of almost every home-owner.

The concept described in this article will contribute importantly to the fulfillment of these objectives. In fact it will do all of the following things:

- (1) Reduce the first cost of the residential air conditioning system.
- (2) Reduce the size of the air conditioning equipment.
- (3) Reduce air quantities and hence the cost of the air distribution system.
- (4) Produce more comfortable conditions within the home.
- (5) Simplify the application problem so that good summer cooling installations may be more easily planned.

(6) Increase the summer load factor of the electric utility and the revenue they receive per dollar invested in generating and distribution equipment. In the long run this should help maintain low power rates to the home owners.

We have identified the new concept which makes all these things possible as the "24-Hour Load Calculation Method." Before the impact of this

new concept may be fully appreciated, one must understand the make-up of the residential cooling load.

Removing Heat and Humidity

Almost everyone recognizes that to keep a house cool and comfortable in the summertime, the residential air conditioner includes a refrigeration system that removes both heat and humidity from the circulated air. The heat is dissipated outside the house through either a cooling tower or an air-cooled condenser. The humidity removed from the air collects as water on the cooling coil, runs off into a drip pan and eventually is drained away to the sewer.

Let us enumerate the sources of the heat and humidity removed by the air conditioning equipment. First we have the heat flow that takes place through the walls and roof of the house because it is warmer outside than in and because the structural materials of walls and roof are capable of conducting heat. We call this the "transmission heat gain." This heat gain is higher when it is very hot outside than when it is cool. It would be zero if the temperature outside remained exactly the same as the inside temperature for some period of time.

The amount of heat that leaks in through the walls and roof can be reduced by reducing the thermal conductivity of the structure. This is often done through the application of insulation. Most of us think of insulating against the winter cold to reduce the fuel required for heating. But the same insulation serves to reduce the heat gained in summer and consequently reduces the amount of refrigeration needed to keep the house cool.

Temperatures Constantly Varying

In thinking about the temperature difference between the inside and outside which causes the heat flow, it must be recognized that this temperature difference is continuously varying. It varies on an annual cycle as we well know, since in the summer it is warmer outside than inside while in the winter it is colder outside than inside. But the temperature also varies on a daily cycle due to the heating of the lower portion of our atmosphere by the sun.

The range of outside temperature variation is different day to day, but this variation does have a normal or average value in each locality. In most places the maximum temperature is reached around 2 to 3 p.m. and the minimum temperature, which is 15° to 20° lower, occurs around 5 to 6 a.m. Recognition of this normal temperature variation is very im-

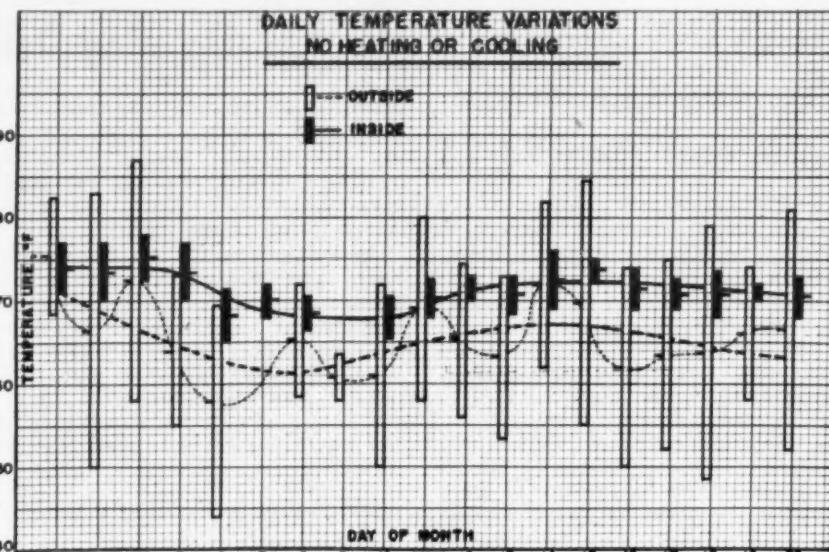


FIG. 1 shows that indoor temperature of a house varies in a pattern similar to the outdoor temperature changes, but not nearly so much.

portant to an understanding of what follows.

Sun's Radiation as Source of Heat

A second important source of heat gain to a home is the sun's radiation. Actually the heat of the sun gets into a house in two ways. First, heat is added by direct solar radiation that passes through windows and falls on interior surfaces. Ordinarily window glass is very transparent to the sun's radiation and when the sun is shining through a window, almost 200 B.t.u./hr. enter the house for each square foot of area normal to the sun's rays.

But the sun's heat gets into the house in another way besides direct radiation through glass areas. Anyone who has ever walked on the hot sands of a beach in his bare feet or on the surface of a sidewalk or street in summer will testify to the fact that the surface is hotter than the air temperature. This is because the sun's rays are transformed to heat when they strike any surface.

Consequently the surfaces of the house that are bathed with sunlight become hotter than the outside air temperature and a greater quantity of heat flows through the wall structure than would flow through if the sun were not shining.

The temperature rise of sunlit surfaces above the outside air temperature depends on the type of surface. Dark surfaces absorb a greater portion of the sun's radiation than do light-colored surfaces. Consequently, a wall which is painted white (which reflects some of the sun's radiation) will stay cooler, and although the wall structure is identical to one which is painted a dark color, less heat will be transmitted to the inside of the house.

In the case of residences, the transmission of heat through the walls and roof of the structure and the heat gain associated with solar effects normally account for three-quarters or more of the total heat that must be removed by the refrig-

eration equipment in the residential air conditioner.

Moisture Infiltration Through Walls, Roof

Of the remaining sources of load, the most important is probably that caused by the infiltration of moisture through the walls and roof. This may seem quite strange to those without experience in air conditioning. The question immediately arises, how does the influx of moisture result in a cooling requirement? The reason is that the moisture enters the house as a vapor and tends to raise the humidity in the house.

The air conditioning unit with its cold coil condenses this excess humidity from the circulated air and in doing so, it is condensed to water. Each pound of water removed in this manner requires the removal of 1,000 B.t.u. by the refrigeration system. It is not unusual to remove 100 or even 150 lbs. of water from the air of an average-sized residence in a single day.

Heat Sources Inside House

Finally, there are a number of miscellaneous sources of heat and moisture which originate within the house. First, the occupants add heat to the space because their body temperatures are above the room temperature. Also, they add moisture to the air by evaporation from the skin and in the form of moisture in exhalations. Finally, heat and humidity are added by electric lights, cooking, appliances, the combustion of fuels, showering, and moisture evaporation from the wetted surfaces of sinks, wash basins, etc.

So we see that the residential cooling load is made up of transmission and solar heat gains, comprising perhaps 75% of the total load; moisture infiltration, which may represent 20%; and an additional 5% from miscellaneous internal heat sources. The first two categories are so important that we may concern-

(Continued on next page)

New G-E Starter—FIRST With Complete Protection For Hermetic Compressors

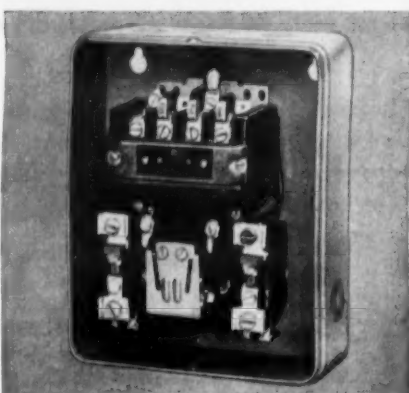
In normal operation, suction-gas cooling keeps the motor in your hermetic-type compressor artificially cooled. Even when the integral motor delivers 130 to 150% of its normal output, it can be operated safely. But if the motor stalls carrying this abnormal load, watch out!

THE CHALLENGE—to develop a control permitting increased motor output without exceeding safe motor temperatures, that also protects against burn-outs under stalled conditions.

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These other exclusive features of the G-E starter assure top electrical performance and exceptionally long mechanical life.

● Strongbox Magnet Coil—plastic enclosed. Seals out dust, moisture, oil. Protects windings from screwdriver damage during wiring.

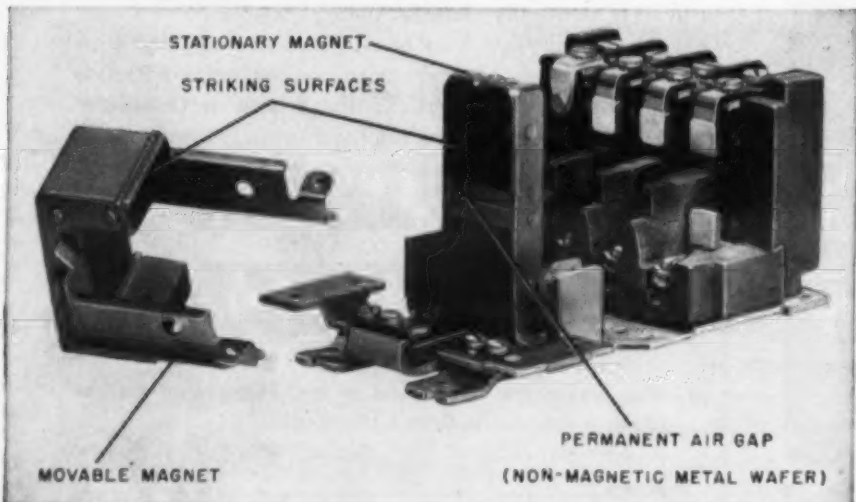


● Permanent Air Gap—non-magnetic metal wafer between pole pieces prevents magnet sticking.

● Interchangeable Contacts—you need only a screwdriver to change contacts from normally open to normally closed on size 0 and 1.

And the attractive appearance of the G-E starter makes it the perfect control for your modern air conditioning and refrigeration equipment.

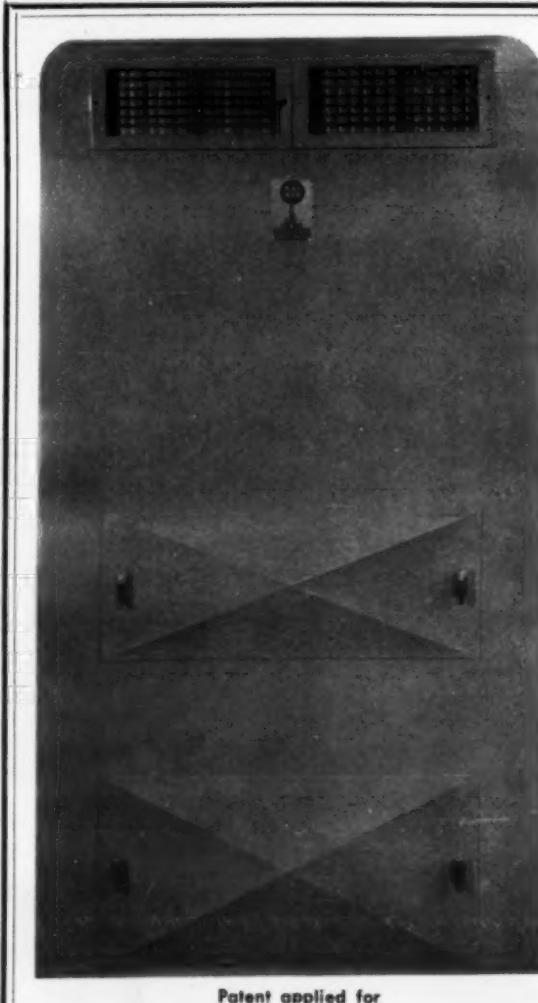
For further information, contact your nearest G-E agent or distributor, or write Section 730-47, General Electric Company, Schenectady, N. Y.



PERMANENT AIR GAP in G-E starter is safely away from the striking surfaces.

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NEW! DIFFERENT!

BAL-AIR now offers complete store packaged units with built-in evaporative condensers, five-year guarantee sealed compressors, with or without detachable cooling coil section that can be simply mounted into hot air ducts, in sizes 2, 3, 5, and 7½ tons.

With detachable cooling coil section, the high side package, including the water-cooled evaporative condenser and compressor, may be installed at any remote location either inside or outside of the building.

Overall dimensional sizes with the attached cooling coil section, as per photo, are 75 x 40 x 30 inches.

These units are applicable at lower prices for any location where conventional similar package units are used which are installed with wood towers. Higher efficiency, lower water consumption, less labor and thermostat controlled are the main features.

Steam or hot water coils may also be installed in the complete unit, where this type of heat is preferred.

Other Items Manufactured By BAL-AIR

- Commercial packaged unit with built-in evaporative condenser in sizes from 5 to 60 tons.
- Forced draft cooling towers.
- Air handling units in all sizes.
- Evaporative condensers in all sizes and in as many circuits as desired.

Factory: 1210 McGavock St., Nashville, Tenn. Phone 42-0541

National Sales Office: P. O. Box 576, Columbia, S. C. Phone 44352

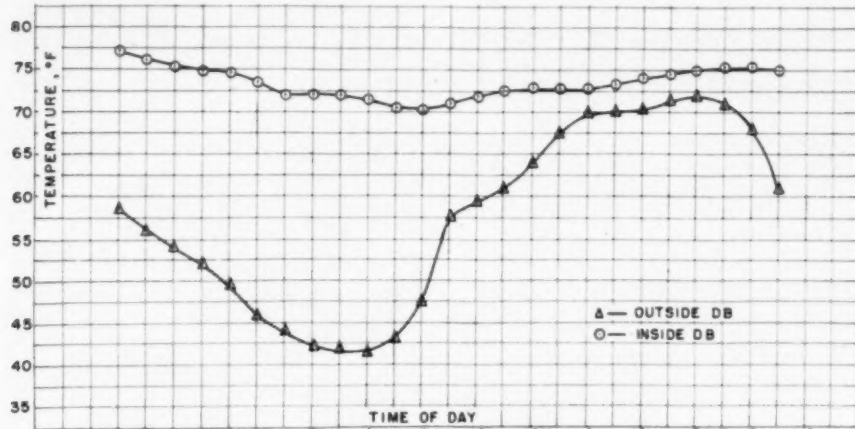


FIG. 2—Hourly temperature changes in a house varied no more than 6° or 7° over 24 hours although the outdoor temperature varied as much as 30° F.

Calculating Residential Cooling Loads--

(Continued from preceding page)

trate our attention on these alone and of these, transmission and solar gains are predominant.

Actually the heat flow into an air conditioned residence in summer due to transmission and solar effects constitutes a very complex problem. The complexity of the problem, as a matter of fact, has until now resulted in the application of refrigeration systems to residences which were considerably larger than necessary to maintain satisfactory comfort conditions.

Since it is the refrigeration equipment in the air conditioning unit that makes up the largest portion of its cost, we cannot afford to continue

making over-sized applications if the residential air conditioning market is to be developed satisfactorily.

What has been the reason for this unfortunate situation? It is this. Most engineers designing residential air conditioning systems have until now followed the practice used in commercial applications of attempting to estimate the maximum heat removal or heat gain in any one hour. In making this calculation the early afternoon is normally selected as the time of day when the outside temperature is at its peak. At this same time the solar effects are calculated and added to the calculated transmission heat gain. To this the other miscellaneous elements of the

cooling load are added and a peak hourly heat gain arrived at.

Errors Result In Figuring Peak Heat Gain

This seems like a pretty logical approach but the fact is that it results in substantial error. The reason for the error is due to the fact that the structural materials and contents of a residence, taken together, represent a considerable mass of material. The exact quantity is difficult to estimate and varies with different types of construction but an approximate figure for an average size house would be 50,000 pounds or 25 tons. A mass of material of this magnitude is capable of storing a considerable amount of heat.

Consequently, as the heat begins to enter the house from the outside surface as the outside temperature begins to rise during the early part of the day, a portion of the heat is used up, so to speak, in raising the temperature of the structure. Similarly when the sun shines in through the window, it falls upon the floor or the wall and a portion of the heat that is calculated as entering the house again heats up the material from which the house is made.

As the result of these effects the heat that is calculated as entering the house does not immediately become effective in raising the temperature within the house and the cooling load does not appear at the air conditioning equipment. In other words, the only way in which the air conditioning equipment can remove heat from the house is by cooling and dehumidifying the air which is returned to it through the return ducts. If this air is not elevated in temperature substantially, the cooling unit does not sense an increase in load.

Since we have indicated that the heat flowing into the external surfaces of the house does not enter the interior immediately and does not heat the air in the house, our calculated cooling load is greatly in excess of the instantaneous cooling load sensed by the air conditioning system.

Methods of Estimating Storage Effect

Engineers have recently been developing methods of estimating the storage effect in order that a more accurate prediction of maximum cooling load might be made. Problems in unsteady state heat transfer are extremely complex and, although reasonably accurate solutions can be obtained through analysis and the use of hydraulic or electrical analogs, there is considerable doubt as to whether this approach can ever be brought within the grasp of the majority of air conditioning engineers; not to mention the less skilled personnel who are often charged with the responsibility of designing residential cooling installations.

Fortunately there is another approach which almost anyone can understand and the application techniques of which can be reduced to simple terms.

Many Systems Oversized

Many people have recognized that the majority of residential cooling systems were over-sized. This was evident from the fact that even on the hottest days the refrigeration equipment would not operate continuously and consequently would not deliver its maximum cooling effect. Our thinking was that, if we could make an experimental determination of the amount of thermal capacity of the structural materials of an average residence, we might make some allowance for this thermal capacity and make a corresponding deduction from the cooling load estimated in the usual way (instantaneous hourly heat gain).

To make this experimental determination several houses in Syracuse were equipped with thermocouples located to record room air temperatures as well as the surface temperatures of floors, walls, ceilings, etc. At the same time thermocouples were located outside the houses and

AIR CONDITIONING (Year-Round Residential)

all the temperatures together with the output of an instrument to register sunshine were continuously recorded.

The experiments were run in Syracuse during the month of June when the solar effects are at their maximum intensity but when outside temperatures are not extremely high. Consequently the homes could be completely closed up but remained normally occupied. No heating or cooling was applied.

Several things may be noted first. The outside temperature swing followed the normal pattern already described and temperature swings of between 25° and 30° were experienced on some of the days. Second, the variation of the inside air temperature was considerably less than outside. On most days the inside temperature swing was 5° F. or less with a maximum temperature variation of 7° being experienced on June 14.

It was observed that the inside air temperature assumes a minimum value at around 6 a.m. or 7 a.m. and that maximum inside temperature usually occurs between 8 p.m. and 10 p.m. Hence the minimum inside temperature does not lag greatly behind the minimum outside temperature but the maximum inside temper-

ature lags the outside temperature by five to seven hours.

Finally, if curves are drawn through the means of inside and outside temperature records, it is clear that the daily variation of one is more or less in phase with the other. In other words at the outside temperature changes with a cycle of weather spanning several days, the inside temperature follows along.

Two fundamental conclusions can be made from observations like those described. These are:

(1) The normal insulating qualities and thermal capacities of residences that are completely unventilated (except for normal infiltration), normally occupied and subjected to maximum solar effects, are sufficient to limit interior temperature variations 6° to 7° F. in spite of maximum swings of 25° F. to 30° F. in outside temperature.

(2) The average inside temperature normally remains 5° to 7° F. above the average outside temperature. This difference is necessary to allow the solar effects that produce heat within the house together with other heat generated in the house to leak out by transmission through the walls.

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

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ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

A PRETTY darn good refrigeration service engineer is more than anxious to become your most valued employee as a field service representative or service manager. Good technical background and an ability to please the customer. Will throw in 14 years' experience and an unreserved desire to "do a job". Position of responsibility far more important than wages. Well! Write anyhow. BOX 4284, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

PARTNER in old established store fixture, refrigeration, & air conditioning business. No investment required but you must have experience in selling above equipment. Others will not be considered. You can make real money with this proposition. Write PITTSBURGH REFRIGERATION COMPANY, 2901 Penn Ave., Pittsburgh 1, Pa.

MIDWESTERN REFRIGERATION and air conditioning manufacturer needs an experienced service manager. Must be able to organize service department and handle customer complaints. Must be familiar with air conditioning and refrigeration installations and equipment. Age range 35-45. Salary open. Address replies, giving full details of work history to BOX 4269, Air Conditioning & Refrigeration News.

ASSISTANT CHIEF engineer, Midwestern refrigeration and air conditioning manufacturer needs an experienced assistant chief engineer. Mechanical engineering degree required. Age range, 35-40. Major experience in air conditioning and refrigeration. Must be familiar with electrical refrigeration and air conditioning controls. Some experience in field application and developmental work desirable. Experience in handling administration functions of engineering division imperative. Salary open. Address replies giving full details of working history to BOX 4270, Air Conditioning & Refrigeration News.

SALESMAN COMMERCIAL refrigeration. Excellent opportunity for experienced man to sell complete line of fixtures, refrigeration and maintenance contracts to food stores and super markets. Manhattan and Bronx territory. Car expense, salary with bonus, hospitalization benefits, etc. Well established company. BOX 4282, Air Conditioning & Refrigeration News.

FIELD SERVICE engineer for Indiana, Ohio, Michigan. Age 32 to 42, living in northern Indiana or southern Michigan, with 10 or more years' experience, preferably food store refrigeration. No installation or service responsibility. We are looking for a capable man who wants to lay down his tool box for a better opportunity. One of the largest manufacturers of food store equipment has an excellent opportunity for a man free to travel in a definite territory without family interference. Salary, expenses, insurance, etc. Also a man for the eastern and New England states living in a mid-eastern state. Apply by letter, giving full particulars, with recent photograph. BOX 4283, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

ALL JUNK Electric water valves 1/2", 3/4", 1" Penn 246 series 1/2", 3/4", 1" water valves. Will pay top price, including shipping charges. Wanted, junk Ranco Penn LSP, 271-271 series commercial controls.

Buy all new surplus refrigeration merchandise. Act now. D.D.S., 491 East 163rd St., Bronx, N. Y.

EQUIPMENT FOR SALE

SODA MASTERS and mix monitors. \$20,000 inventory of genuine Carbonic Dispenser self-contained and remote type soda masters and mix monitors. Large distributor discontinues line. Will dispose of above at substantial saving 50% below factory discount. All brand new or equal to new. Current 1953 models, complete with compressors. Also quantity of stainless syrup tanks, Koroseal, S/S fittings, Mix Master carbonators, etc. Two or three flavor faucets, bar and fountain type, parts, etc. Write for list and prices. Special price for lot. ELECTRIC PRODUCTS, INC., 100-112 Nelson Ave., Jersey City 7, New Jersey.

NEW UPRIGHT freezer—21 cubic feet; over 700 lb. capacity; Modern design; gleaming white exterior; extra-quick freezing with freezer plate shelves. Complete with 1/2 h.p. Chieftain sealed unit self-contained; Ranco Temperature Control; F-22 Gas. Dealer Price \$359.00. Special discount for quantity. GENERAL REFRIGERATORS CORP., 2011 First Ave., N.Y.C. ENright 9-0200.

3 20-HP FRIGIDAIRE condensing units complete with condensers, motors, starters, cast iron bases and miscellaneous copper pipe and fittings. 2 LE 20 HP Schnacke condensing units complete with motors, starters and condensers for remote installation. 1 36 x 66 4 row Bush air conditioning coil. W. T. HEANEY CO., INC., 8425 Joy Rd., Detroit 4, Mich.

DISTRIBUTORS, WHOLESALERS wanted. Sensational air-conditioner condensate disposal unit 9 inches high, eleven wide, 4 1/2 thick. Complete tank pump float and check valve. Pumps 2A, 12 foot head, 46 gallons at 10 feet. Outstanding patent features makes K40 the greatest value on the market. List \$50, retails 20% off. KESCO PRODUCTS CORP., 115-31 Sutphin Blvd., Jamaica 4, N. Y.

SPECIAL OFFERING 1/4-HP domes (motor compressor assemblies) Model S64 @ \$33. Also following complete units. 1/4-HP sealed @ \$45, 1/2-HP sealed @ \$55, 3/4-HP sealed @ \$70. Other sizes up to 5-HP. Write for specifications. Limited quantity. Act now. MANN REFRIGERATION SUPPLY CO., 440 Lafayette St., NYC, Gramercy 3-8000.

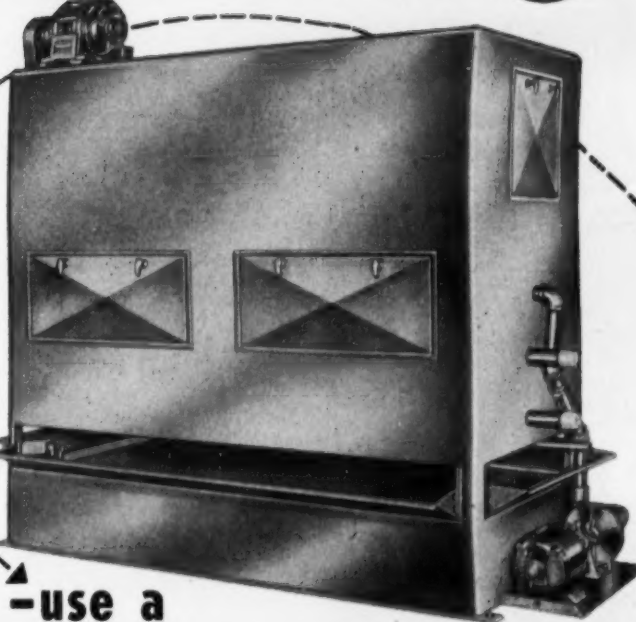
ATTENTION SERVICEMEN — Send for our 1953 Catalog. Relays, Expansion Valves, Controls, Dehydrators, V Belts, Open & Hermetic Units. All new merchandise at great savings up to 50%. Sold on Money Back Guarantee. WALTER W. STARR REFRIGERATION, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITY

UNLIMITED OPPORTUNITY for two, three or four ambitious persons. Going business on Texas gulf coast. Good nationally-advertised franchise. Complete sales and service for refrigeration and appliances. Service includes commercial refrigeration, radio and television, all household appliances and electrical construction. Did more than \$60,000.00 first year. Located in town of 6,000; whole county in which to do business. More particulars on request. Reason for selling, ill health. Write BOX 4280, Air Conditioning & Refrigeration News.

REFRIGERATION, AIR CONDITIONING, service and appliance business established 18 years. Gross average over \$125,000. Will sell at inventory approximately \$25,000. Business can be purchased with or without building (8 furnished apts). Good location in Joliet, Illinois. A growing community 35 miles from Chicago, Ill. BOX 4281, Air Conditioning & Refrigeration News.

When water is a Headache...



-use a

GOVERNNAIR EVAPORATIVE CONDENSER

Water supply for air conditioning can cause you a lot of trouble. When there's a shortage; when rates are expensive or when sewage and piping are impractical—water becomes a real headache!

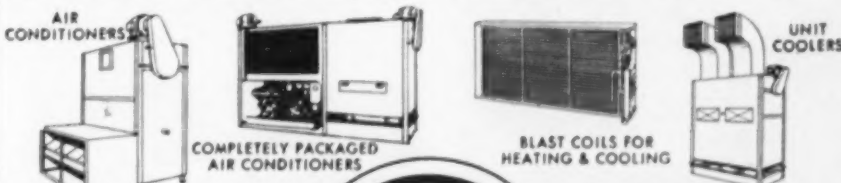
That's when engineers and contractors alike turn to Governair Evaporative Condensers!

Governair Evaporative Condensers eliminate waste-water disposal

problems and pumping costs. And they're engineered to give maximum efficiency and performance at a reasonable cost. Available in sizes from 3 to 100 tons.

Choose a Governair Evaporative Condenser and there's no need for aspirin!

GOVERNNAIR CORPORATION, 513 N. BLACKWELDER, OKLAHOMA CITY, OKLA.



GOVERNNAIR

ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS

Announcing a Startling New Development in The BARUSCH Four Way Reverse Cycle Heat Valve for either cooling or heating room air by reversing the flow of refrigerant through the system.

FEATURES:
1. ABSOLUTELY FOOLPROOF.
2. REQUIRES NO ELECTRIC WIRING.
3. MAY BE INSTALLED IN ANY POSITION.
4. SIMPLE, INEXPENSIVE INSTALLATION.
5. POSITIVE ACTION WITH ABSOLUTELY NO BY-PASS.
6. HOT GAS DEFROSTING.
7. MADE BY A REFRIGERATION MAN FOR REFRIGERATION MEN.
This BARUSCH valve carries a five year warranty against defective materials and workmanship.

Manufactured by THE BARUSCH MANUFACTURING CO. 3440 N. W. 17th Ave., Miami, Fla.

Otter Sees Public Ready To Buy--

(Concluded from Page 1, Column 2)
Well, it's enough—enough money to pay all present consumer credit outstanding in cash. It is enough money to buy the entire production of the automobile industry for this year for cash.

"In addition, it is enough money to buy all the houses that will be built this year. It is enough money to buy for cash all the listed stocks on the New York Stock Exchange, and after buying all these things, the people of this country would still have \$29,000,000,000 left over."

Otter noted that an air conditioner "is not the same kind of appliance as a refrigerator, a range, a freezer, or a washing machine."

POTENTIAL IS ONE TO EACH ROOM

"You sell one of these appliances to a home, but the market in every home for an air conditioner is equal to the number of rooms in that home."

"I dare you, as a parent, to put an air conditioner in your bedroom and let the children sweat it out. Your wife cannot live in a bedroom all day, so you have to put units in the living room, in the dining room. The best prospects for sales this year are last year's buyers."

Turning to another market, Otter said: "The boss who has an air conditioner in his office is very greedy and very unpopular until his other executives have been treated equally as well."

"And how about the office force—there is no end to the prospects for sales. A good salesman might even arrange for a walk-out or a strike

so he can make a sale of air conditioners for the office people."

Otter continued: "I believe that some one of these years—not far away either—there will be more room air conditioners sold yearly than refrigerators, and that means big business. Incidentally, we have some distributors right now who outsell refrigerators."

Here, Otter sounded a warning.

"Last summer was hot—hot in the north, south, and middle west—and the public did knock down our doors to buy air conditioners," he said. "But maybe it won't be hot next summer—then what?"

"Any business that depends entirely on the weather is a tough business. It is dangerous and many of these brand new air conditioning manufacturers who have jumped so quickly into this industry should take note."

"We learned sometime ago to sell well in advance of hot weather. We learned that the air conditioning business could never grow if it continued as a sideline, and was sold out of the back door of the distributor at a discount to friends."

"We learned this was a dealer business and had to be sold on a sound basis with the same kind of promoting and merchandising as the industry has always given appliances."

Also, Otter said, "we have learned that it was not price, size, or weight that had held down volume. It was a case of educating the American public on air conditioning, just as it has been with every new appliance."

Otter stressed that the room air conditioner, "in a normal sequence of events, through acceptance by the public, has become of age."

'AIR CONDITIONER' IS JUST WHAT NAME IMPLIES

"You may have noticed that I have not called this machine a room cooler as we so often did in the past. The air conditioner has outgrown that name. Today it is just what the name implies—an air conditioner. It conditions the air for your complete comfort."

This year, for the first time, Otter stressed, the air conditioner can provide heat when the weather is cool.

"Two entire seasons—spring and fall—have been added for the use of an air conditioner in most parts of the country, and in the south, southwest, and California, its usefulness is 12 full months," he said.

UTILITIES WILL LIKE IT

"Here is certainly an appliance every utility in the country will like. It assures the success of air conditioning to a greater degree than ever before."

"There are two methods being used this year. One uses a heating coil built inside the air ducts so that the fan will blow the air over the coil and give heat."

"The other very simply makes use of the heat normally thrown away. A valve built into the air conditioner reverses the flow of the refrigerant within the unit."

"Neither heat system is meant to replace the regular heating system. They are auxiliary heaters meant for use in the spring or the fall to take the chill out of the air when outside temperatures are not lower than 40°."

"It is natural, in studying the future of air conditioning," Otter went on, "that we should wonder how the individual unit stands in relation to the central system."

ADVANTAGES OVER CENTRAL SYSTEM

"There is certainly a market for both, but it is my firm belief that the individual unit has many advantages for most needs. Single air conditioning units cannot do a good job of cooling a hotel lobby or a hotel ballroom, but for hotel bedrooms, offices, or the home there is no comparison. "The cost of installation in a home or large building of a central system

is very high unless it is built in while under construction, and even then, if properly planned, the individual units are many times less expensive."

"The cost of operation of single room units is considerably less. Unless the office or room is being used, the unit is not turned on. There is no wasted operating expense."

"In many cities the cost of water for a central system is quite high, sometimes the water power is not great enough, and in times of water shortage, there may be no air conditioning at all."

"The convenience of a single unit is another strong factor. Cool air from the ceiling or high on the wall hits my bald head, my nose starts to run, and my voice disappears. With a single unit I adjust the airflow away from my bald spot."

"There is an installation being made now in Pittsburgh of 900 single room air conditioners in the Gulf Oil building."

"According to the manager of this building, the cost of installation of a central system was quoted at \$1,500,000 to \$2,000,000. The installed cost of the 900 single room units is around \$300,000. The cost of water for a central system was estimated at \$420 per day. It required 500 tons of water daily."

Otter termed air conditioning a "must" for people getting along in years, a "life-saver" for those with a heart condition, a "necessity" for the business man who has to get sleep to be ready for a long day of hard work."

"It is as easy to have one as it is to install a refrigerator or a television, but the great utilities of this country fit into the future of this business and as close as the manufacturer does," Otter said.

Senate Committee Passes Standby Credit Controls

WASHINGTON, D. C.—A bill to give the Federal Reserve Board the power to regulate consumer credit for two years was approved recently by the Senate banking committee.

A two-year extension of the authority to impose priorities and allocations on scarce metals for military and atomic energy programs was also approved by the committee.

In addition, the committee passed a bill that would give the president power to freeze wages, prices, and rents for 90 days in case of a new emergency.

To become law, these bills must still win approval by the Senate, the House, and the President. The request for these powers came from the administration.

In testifying before the committee, Federal Reserve Board officials said they have no intention at this time of restoring consumer credit controls but they wanted the power to do so if the need should arise.

Conley Named--

(Concluded from Page 1, Column 4)

Southern Appliances from the Crosley Distributing Div. of Avco Distributing Corp., where he was vice president in charge of branches. Prior to his association with Crosley he was sales manager of Kitchen division of Hotpoint, and more recently was vice president in charge of national sales for Coolerator.

Mitchell announced that Conley had been elected a director and is part owner of the business.



GEORGE S. JONES, JR., who has been named managing director of the new Air Conditioning and Refrigeration Institute, association of manufacturers of refrigeration and air conditioning equipment, formed by the merger of Refrigeration Equipment Manufacturers Association and the Air Conditioning and Refrigerating Machinery Association. Jones is a former vice president in charge of sales for Servel, Inc., and has more than 25 years' experience in the industry.

Niagara Blower Names Knight Director of Sales

NEW YORK CITY—Niagara Blower Co. announces the appointment of Ralph C. Knight to the newly created position of director of sales with offices at 405 Lexington Ave.

Knight has been with the company since 1942.

KASON HARDWARE
SUPER FREEZER DUAL LATCH
for walk-in freezer doors

- Positive Sealing
- Easy Opening
- Simple to Install
- Universal Application

on either right or left hand doors — with 4" offset or greater

INSIDE RELEASE HANDLE

- Assures easy exit from inside freezer. Screws on inside of door, eliminates drilling through door and possible loss of refrigeration. Also equipped for installation with the IM-99 Safety Device.

Catalog available, "Hardware for the Commercial Refrigeration Industry," write us today! Manufacturers of a complete line of commercial and domestic refrigeration hardware and accessories.

KASON HARDWARE CORPORATION
127-137 Westabout St. • Brooklyn 6, N.Y.

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Dealers and users are excited about Gem Refrigerators... custom features, competitively priced, by a maker 30 years in the business. It's a terrific deal! Rich, New Territories Open. Write today!

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why take a trimming...

KOLD-HOLD truck refrigeration WILL PAY FOR ITSELF!

How would you like to finish an entire season without loss from spoilage? Every time you incur a spoilage loss you are taking a trimming... you're scraping profits into the garbage pail.

Actually you're paying for Kold-Hold truck refrigeration now... why not enjoy its advantages? You not only save spoilage losses, but your trucks can make longer hauls. They can carry a full day's load to save time and manhours and make trips more profitable. Full flavor is retained so that you assure complete customer satisfaction. These benefits mean that dependable Kold-Hold truck refrigeration will pay for itself.

For example, one user reports: "Kold-Hold has saved us \$10,500 in less than six months."

KOLD-HOLD can answer any refrigeration problem!

Which do you prefer... Mobile or Hold-Over truck refrigeration? Kold-Hold can give you either or a combination of both.

When your weather worries start, pick out the routes with the biggest refrigeration problems and call on Kold-Hold to give you a satisfactory solution. They will give you the right combination for your needs from such highsides as the Kold-Trux Mobile Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold Hold-Over Plates, Thin Plates, Serpentine Quick-Action Plates, or Blowers.

Why not give us the details of your problems and let our engineers find the most efficient solution for you. Write today for details.

KOLD-HOLD

Tell us your truck refrigeration problems and send now for complete data and literature.

KOLD-HOLD MANUFACTURING CO., 300 E. Second St., Lansing 4, Mich.